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Health Service Executive

A Guiding Framework for the Implementation of Nurse Prescribing of Medical Ionising Radiation (X-Ray) in Ireland

Changing practice to support service delivery

Office of the
Nursing Services Director

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Foreword

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Nurse prescribing of medical ionising radiation (X-Ray) supports health services to provide a more responsive, accessible, effective, timely and efficient service that improves and expedites the patient/service user journey within the health care service leading to increased levels of patient/service user satisfaction. In June 2007 Mary Harney TD, Minister for Health and Children introduced legislation *Statutory Instrument No. 303 European Communities (Medical Ionising Radiation Protection) (Amendment) Regulation 2007*. This amended the definition of 'prescribers' of medical ionising radiation to include registered nurses maintained on the register of nurses by An Bord Altranais. In February 2008, An Bord Altranais published the *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)*. Following this, the Office of the Nursing Services Director established, in September 2008, a national *Advisory Committee for the Implementation of Nurse Prescribing Ionising Radiation (X-Ray)*. The role of the committee was to advise the Health Service Executive (HSE) on the most appropriate way to introduce nurse prescribing of medical ionising radiation (X-Ray). This involves a significant practice change for nursing and other members of the multidisciplinary team. Hence, the establishment of robust systems of clinical governance and a collaborative, multidisciplinary approach to implementation of nurse prescribing of medical ionising radiation (X-Ray) at local and national level.

The *Guiding Framework for the Implementation of Nurse Prescribing of Medical Ionising Radiation (X-Ray)* is an outcome of the work of the *National Advisory Committee*. Parallel work which supported the introduction of nurse prescribing of medical ionising radiation (X-Ray) includes the work of the Education Sub-Committee who developed the nurse education programme in consultation with the Faculty of Radiologists of the Royal College of Surgeons in Ireland and the Centres of Nurse Education. The first programme commenced in May 2009.

It is with great pleasure that I introduce this *Guiding Framework for the Implementation of Nurse Prescribing of Medical Ionising Radiation (X-Ray)*. The guiding framework aims to support nurses, healthcare managers, education providers and specifically the newly established Local Implementation Groups to implement nurse prescribing of medical ionising radiation (X-Ray) in their organisation/service in a multidisciplinary and collaborative manner. I sincerely hope that it helps health services to deliver the patient and service outcomes nurse prescribing of medical ionising radiation (X-Ray) aspires to achieve.

I wish to acknowledge the effort and commitment of all those involved in establishing nurse prescribing of medical ionising radiation (X-Ray). Particular thanks are extended to Mary F. McCarthy, Area Director of Nursing and Midwifery Planning and Development and her team.

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Table of Contents

LIST OF TABLES & FIGURES:

EXECUTIVE SUMMARY

Nurse prescribing of medical ionising radiation (X-Ray) provides an exciting opportunity for registered nurses to expand their roles within their area of practice to meet the needs of the patients/service users in a person-centred manner. This role expansion for nurses also occurs in the context of the HSE *Transformation Programme 2007 - 2010* and the HSE *Integrated Services Programme* where the focus is to improve the provision of safe, effective and timely patient care. The reform of our health and social care services call for a change in not only what we do, but in how we do things and how we work together to deliver integrated patient centred services. Considerable positive patient/service user care outcomes are emerging from the recent introduction of nurse and midwife prescribing of medicinal products. The benefits to patients/service users include a more responsive, accessible, effective, timely and efficient service that improves and expedites the patient/service user journey within the health care service leading to increased levels of patient/service user satisfaction. These same patient/service user outcomes are the current driver and impetus for the introduction of nurse prescribing of medical ionising radiation (X-Ray).

The Minister for Health and Children, Ms. Mary Harney T.D. appreciated the need to improve patient care and gave the issue of nurse prescribing of medical ionising radiation (X-Ray) priority. To this end she facilitated the introduction of nurses prescribing of medical ionising radiation (X-Ray) by amending the relevant statutory instruments. In June 2007 she signed into Irish law *Statutory Instrument No. 303 European Communities (Medical Ionising Radiation Protection) (Amendment) Regulation 2007*. This Statutory Instrument No. 303 (2007) amended the definition of 'prescribers' of medical ionising radiation to include registered nurses maintained on the register of nurses by An Bord Altranais. In February 2008, An Bord Altranais, the statutory regulatory body for nurses and midwives in Ireland, published the *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)*. These requirements and standards guide healthcare institutions and education providers in relation to the development, delivery and evaluation of nurse education programmes for authority to prescribe ionising radiation (X-Ray). Nurse education programme requirements and standards are specified in relation to:

- learning outcomes;
- competencies for authority to prescribe ionising radiation;
- syllabus/indicative content;
- theoretical and clinical instruction; and
- scope of practice guidance for nurse prescribing of ionising radiation (X-Ray).

An Bord Altranais state that *"the objective is to create nurses that are competent and confident in their authority to prescribe ionising radiation (X-Ray) at the point of qualification and who have embraced a philosophy of life-long learning in order that they continue to deliver competent, responsive and flexible care in a variety of clinical settings"* (An Bord Altranais 2008 p5).

In September 2008, the Office of the Nursing Services Director established a national *Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray)* (*National Advisory Committee)* to advise the Health Service Executive (HSE) on the most appropriate way to introduce nurse prescribing of medical ionising radiation (X-Ray) in the Irish healthcare setting. The *Guiding Framework for the Implementation of Nurse Prescribing of Medical Ionising Radiation (X-Ray)* is an outcome of the work of the *National Advisory Committee* and associated sub committees. The guiding framework recommends the establishment of nurse

prescribing of medical ionising radiation (X-Ray) using robust systems in terms of clinical governance and a collaborative, multidisciplinary approach to implementation at local and national level. The development and delivery of a standardised national education programme facilitates nurses to develop the competencies necessary to fulfil their role as nurse prescribers of medical ionising radiation (X-Ray). The nurse education programme was developed in consultation with the Faculty of Radiologists of the Royal College of Surgeons in Ireland (RCSI) and other key stakeholders. The programme aims to support a collaborative multidisciplinary approach to introducing nurse prescribing of medical ionising radiation (X-Ray). The education programme providers are the Centres of Nurse/Children's Nurse Education with the Faculty of Radiologists. The nurse must be registered in the General or Children's division of the Register maintained by An Bord Altranais, and complete an education programme which meets An Bord Altranais' (2008) *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)*.

The guiding framework presents an implementation framework for establishing nurse prescribing of medical ionising radiation (X-Ray) at local level. A step by step project management approach is recommended for services introducing nurse prescribing of medical ionising radiation (X-Ray). Each organisation establishes a Local Implementation Group to oversee the implementation of nurse prescribing of medical ionising radiation (X-Ray) at service level. The function of the Local Implementation Group include to:

- identify suitable clinical areas for the introduction of nurse prescribing of medical ionising radiation (X-Ray) in the organisation/health service.
- Identify the availability of appropriate clinical supervisors for the clinical instruction within the programme
- adapt and implement national policies, protocols, guidelines to support the practice change at local level?
- ensure adequate access to resources necessary for nurse prescribing of medical ionising radiation (X-Ray) in each hospital?
- monitor the impact of the change in practice on patient care and on radiology services; and
- ensure appropriate risk management structures are in place to support the implementation of this new practice; and
- ensure audit and evaluation of nurse prescribing of medical ionising radiation (X-Ray) occurs and report to the hospital Radiation Safety Committee.

Upon successful completion of the programme *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)*, the nurse receives a certificate from the education providers. The nurse presents this certificate to his/her Director of Nursing. As per local arrangements, the Director of Nursing notifies the Head of Radiology (Consultant Radiologist). The nurse is then authorised to prescribe Ionising Radiation (X-Ray) in that organisation.

It is imperative from a professional accountability perspective that nurses undertaking an expanded role in a practice such as prescribing of medical ionising radiation (X-Ray) monitor this change in practice. Good corporate governance also requires the services in which they are employed to devise systems to monitor this activity. The national *Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset* and the associated *Data Collection System* were developed by the *Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray)* to support such monitoring. Nurses with authority to prescribe ionising radiation (X-Ray) will input details of the prescriptions in this system on an ongoing basis. The system serves as a record or database of all nurse prescribers of medical ionising radiation (X-Ray) in Ireland.

Guidance on clinical audit of nurse prescribing of medical ionising radiation (X-Ray) is provided in this guiding framework. The audit of the nurses' prescribing ionising radiation practices will be undertaken under the guidance of the Director of Nursing and his/her nursing and nurse management teams. As part of their terms of reference the Local Implementation Group ensure audit systems are in place and reports to the Chair of the Radiation Safety Committee.

The introduction of nurse prescribing of medical ionising radiation (X-Ray) has significant implications for healthcare delivery, nursing and especially service users. The *Guiding Framework* aims to support nurses, healthcare managers, departments of radiology, education providers and specifically newly established Local Implementation Groups (LIG) to implement nurse prescribing of medical ionising radiation (X-Ray) in their organisation/service in a multidisciplinary and collaborative context.

OVERVIEW

Guiding Framework for the Implementation of Nurse Prescribing of Medical Ionising Radiation (X-Ray)

This guiding framework was developed as a single repository of information pertaining to the introduction and implementation of nurse prescribing of medical ionising radiation (X-Ray). The framework addresses the project governance guiding implementation, the nurse education programme and the implementation framework at local and national level. It is envisaged that individual health service providers will use and adapt, where appropriate, the content of the framework to suit their own organisational requirements. The purpose of the guiding framework is to:

- support the introduction of nurse prescribing of medical ionising radiation (X-Ray) as a new way of working, that provides enhanced patient/service user access to care, and meets patient needs in partnership and collaboration with the multidisciplinary team;
- ensure the safety of patients and service users by establishing robust, multidisciplinary implementation structures for nurse prescribing of medical ionising radiation (X-Ray);
- agree the principles and ensure that nurse prescribing of medical ionising radiation (X-Ray) is embedded in sound robust corporate and clinical governance frameworks with regular auditing and evaluation; and
- provide clear guidance underpinned by the relevant legislative and regulatory framework to enable nurse prescribing of medical ionising radiation (X-Ray) within individual health service providers.

Key resources that have greatly influenced the development of this guiding framework include professional guidance from An Bord Altranais, relevant legislation, *Building a Culture of Patient Safety Report of the Commission on Patient Safety and Quality Assurance* (DoHC 2008) and the *Improving Our Services: A Users Guide to Managing Change in the Health Service Executive* (HSE 2008a). It is also informed by the *Guiding Framework for the Implementation of Nurse and Midwife Prescribing in Ireland* (ONSD 2008b) published by the Office of the Nursing Services Director, HSE, to guide the implementation of nurse and midwife medicinal product prescribing in Ireland.

Chapter One places the introduction of nurse prescribing of medical ionising radiation (X-Ray) in Ireland in context. The impetus for introducing this initiative is outlined and the relevant legislation is described. The chapter then considers the professional and radiology governance structures associated with this new practice in nursing.

Chapter Two outlines the project development and the governance structure for the introduction of nurse prescribing of medical ionising radiation (X-Ray). The role of the national *Advisory Committee for the Implementation of Nurse Prescribing of Medical Ionising Radiation (X-Ray)* established by the Health Service Executive is discussed. The key activities for change and the associated communication and evaluation strategies are also outlined in this chapter.

Chapter Three outlines the education programme entitled *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)*. The programme is detailed from curriculum design stage including the theoretical and clinical experience requirements and the competency assessment.

Chapter Four presents a step-by-step implementation framework to guide health service providers introducing nurse prescribing of medical ionising radiation (X-Ray) in their service/organisation. Implementation of nurse prescribing of medical ionising radiation (X-Ray) is discussed under the four stages of the project management lifecycle. These stages are initiation, planning, implementation and mainstreaming. Recommended steps and activities for change to support successful establishment of nurse prescribing of medical ionising radiation (X-Ray) are discussed under each stage.

Chapter Five outlines the minimum dataset and data collection system developed to support the monitoring of nurse prescribing of medical ionising radiation (X-Ray). The purpose and content of the *National Nurse Prescribing Ionising Radiation Minimum Dataset* and the *Nurse Prescribing Ionising Radiation Data Collection System* are outlined. This chapter describes who has access and how access to the data collection system is authorised.

Chapters Six provides guidance for preparing, planning and undertaking clinical audit of nurse prescribing of medical ionising radiation (X-Ray). Samples for an audit tool, improvement plans and an audit report are discussed and provided in this chapter.

It is anticipated that this guiding framework will be a valuable tool for health service providers and education providers regarding nurse prescribing of medical ionising radiation (X-Ray) nationally.

CHAPTER ONE:

Background to Nurse Prescribing of Medical Ionising Radiation (X-Ray)

1.0 Introduction

The profession of nursing in Ireland is experiencing rapid change against a background of an unprecedented transformation in the heath care environment. It is useful to explore these trends, together with the factors that determine demand for health care and the other various influences on its provision. This chapter provides the background and the context to nurse prescribing of medical ionising radiation (X-Ray) in Ireland. The impetus for introducing this initiative is outlined and the relevant legislation, professional and radiology governance structures associated with this new practice in nursing are considered.

1.1 Demography

One of the determinants for demand of health care is the demographic profile of the population. The population of Ireland has been increasing for almost 50 years following a 100-year decline (Central Statistics Office 2008). Mortality rates have improved for all age groups and are now approaching the European Union (EU) average. As a result, the total population is expected to increase by at least 20% by 2020 and the health system will be challenged to provide more health services of an appropriate mix to meet rising needs (Health Service Executive 2007). Ireland has a relatively young population with one person in ten over 65 years of age. This is set to change considerably in coming years and it is projected that by 2036, one person in four will be over 65 years. As a result, this will place substantial capacity and financial pressure on the health care service. In addition, consumer expectations are increasing, and the developments in pharmaceuticals and technology are improving the potential for decreases in both mortality and morbidity. It is imperative that policy makers at all levels engage in strategic planning for the impact that such various and competing demands will have on the health care service requirements of the population into the future.

1.2 Health Service Context

The function of the Department of Health and Children (DoHC) is to support the Minister and the Government by: advising on the strategic development of the health system including policy and legislation; supporting its parliamentary, statutory and international functions; evaluating the performance of the health and social services; and working with other sectors to enhance people's health and well-being (DoHC 2009). The Health Service Executive (HSE) was established as part of the provisions of the *Health Act 2004* (Government of Ireland 2004) with the objective of providing services that improve, promote and protect the health and welfare of the public. The *'HSE Transformation Programme 2007 – 2010'* vision is that *'everybody will have easy access to high quality care and services that they have confidence in and staff are proud to provide'* (HSE 2006 p9). This transformation programme seeks to re-orient the health service so as to maintain the health of the population and meet the future demands for care in a sustainable, equitable way with a clear focus on delivering high-quality care to service users in the least complex and most appropriate setting.

This transformation programme and associated projects have crystallised the process of implementing the objectives of the health strategy *Quality and Fairness: A Health System for You* (DoHC 2001a) and the primary care strategy *Primary Care: A New Direction* (DoHC 2001b). The transformation programmes have also brought a new focus and impetus to the process of change. The HSE Corporate Plan 2008-2011 recognises the need to *'introduce new initiatives for improved skill mix in the acute services and for the expansion of the roles of health care professionals including nurses and midwives'* (HSE 2008b p 34).

1.3 Integrated Health Care

There is international interest in re-configuring organisational structures and processes to enhance synchronisation and coordination between service providers and to move towards an integrated health care model, as detailed in the *Integrated Services Programme* (HSE 2008c). The central concept of this approach is the linkage of clinical and fiscal accountability in order to improve the delivery and quality of care, and achieve better value for money. The model includes many elements, including leadership by clinicians, quality-driven standards, incentives for keeping people healthy, proactive chronic illness management, keeping care processes as simple as possible, and using electronic means to provide genuine shared care to individuals irrespective of professional group or the primary, secondary or tertiary care setting. To support this model, a more integrated and sustainable approach to human resources is also required. The roles of professionals will have to align with and support a transforming environment in terms of cross-functional teamwork and flexibility of roles.

1.4 Enablers of Nurse Prescribing of Medical Ionising Radiation (X-Ray)

Expanded practice in nursing has growing relevance in the Irish health care system, due to health service reform and changes in health service delivery. The introduction of nurse prescribing of medical ionising radiation (X-Ray) is a significant change in nursing and in the Irish health care service. There is a growing awareness amongst health care managers and policy makers of the scope for harnessing the potential of registered nurses to assist the entire health care team to provide safe and timely quality care to patients/service users in a wide variety of clinical settings. This has been further enabled by the development of the nursing profession as a graduate profession and the development of the clinical career pathways for clinical nurse/midwife specialists (NCNM 2008a) and advanced nurse/midwife practitioners (NCNM 2008b). Drivers for the legislative changes that enabled nurses to firstly prescribe medicinal products and now medical ionising radiation (X-Ray) include: restructuring of the acute hospital services, shifting care from hospital-based care to the community, increasing number of patients/service users and the effects of European Working Time Directive (Directive 2003/88/EC) on working hours of staff.

It is essential to continue to ensure that both individuals providing health care and the HSE in general have the capacity and competencies to move forward to meet the future health needs of the population. The HSE *Transformation Programme* (HSE 2006) provides a cohesive framework for the development of such expanded role activity, when it states that: *'it is necessary to develop and implement a strategic plan for sustainable human resource development in order to meet future health needs and provide effective and efficient health service across all care settings'* (p5).

Nurse prescribing of medical ionising radiation (X-Ray) occurs in many countries in line with their own legislative, regulatory (radiation and nursing) and implementation policies. In the United Kingdom, nurses may be referrers under their current regulations provided they have the competence to provide the medical data required to enable the practitioner to decide whether there is net benefit to the patient from the exposure. Similar nurse prescribing of medical ionising radiation occurs in over half the states in the United States, in Canada, Australia and New Zealand.

The enhanced responsibility and involvement of nurses with authority to prescribe ionising radiation (X-Ray) demonstrates appropriate and effective utilisation of nurses' competencies and skills leading to positive outcomes for patients / service users in terms of greater patient satisfaction, greater accessibility for treatment and increased convenience. This will contribute overall to a more responsive, effective, timely and efficient service and thereby enhance the overall quality of care provided. It is important to ensure that these changes are safe, deliver high-quality outcomes to service users and are cost-effective. Hence, nurses taking on new roles must have sufficient knowledge and expertise to ensure they can perform the role to the required standard.

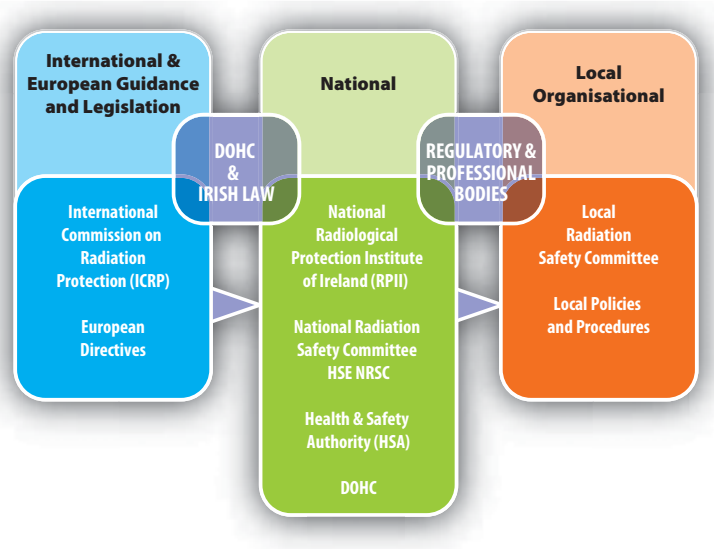
It is envisaged that the following direct benefits may be achieved:

- appropriate prescribing of ionising radiation (X-Ray) using evidence-based practice;
- improved access by patients/service users to radiological diagnostics;
- convenience for patients/service users with enhanced user satisfaction;
- effective and efficient utilisation of nurses' roles and competencies;
- greater awareness of the risk management issues associated with ionising radiation (X-Ray) amongst nurses; and
- appropriate clinical decision-making within shorter time frames for patients/service users.

1.5 Radiology Governance

Medical ionising radiation exposure, as with all ionising radiation exposure, must be kept '*As Low As Reasonably Achievable*' (also known as the ALARA principle). Irish legislation governing the use of ionising radiation is derived from European Directives which in turn are based on the recommendations of the *International Commission on Radiological Protection* (ICRP). The ICRP was established in 1928 and its recommendations, while not mandatory, are highly influential internationally. The legislation and governance structures for radiation protection are outlined in Figure 1.1.

Figure 1.1 Relevant Legislation and Governance Structures for Radiation Protection



1.5.1 The International Commission on Radiological Protection

The *International Commission on Radiological Protection* (ICRP), founded by the International Society of Radiology, is an independent registered charity that was established to advance the science of radiological protection for the public benefit. This is primarily achieved by providing recommendations and guidance on all aspects of protection against ionising radiation. The ICRP is based in the United Kingdom and has its small Scientific Secretariat in Canada. According to its constitution, in preparing its recommendations, the ICRP considers the fundamental principles and quantitative bases upon which appropriate radiation protection measures can be established. The various national protection bodies have responsibility for formulating the specific advice, codes of practice, or regulations that are best suited to the needs of their individual countries. The *International Commission on Radiological Protection* offers its recommendations to these regulatory and advisory agencies and provides advice intended to help management and professional staff with responsibilities for radiological protection.

In 1977 the *International Commission on Radiological Protection* published general recommendations on the conceptual framework of radiation protection, based on the following three key principles:

- *Justification* - the process of showing that a particular use of ionising radiation produces sufficient benefit to the exposed individuals to offset the radiation detriment it causes;
- *Optimisation* - the process of keeping all exposures as low as reasonably achievable; and
- *Dose limitation* - the process of keeping the sum total of all relevant doses received whether by workers or members of the public within specified limits.

The publication of these general recommendations, commonly referred to as ICRP 26, led directly to the adoption by the European Community in 1980 of Directive 80/836/EURATOM (subsequently amended by Directive 84/467/EURATOM). This directive laid down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation. As a result of a continual process of reappraisal, ICRP recognised during the 1980s that the risks of exposure to ionising radiation were greater than had previously been thought. It then published new general recommendations in 1991, known as ICRP 60, which updated the standards in ICRP 26. In particular, ICRP 60 distinguishes between practices (activities that increase human exposure) and intervention (actions taken to decrease human exposure in an actual situation). Practices cover the uses of ionising radiation already referred to such as medical uses. An example of intervention is the actions taken to reduce exposure in the aftermath of an accident. The principles which apply to practices, where the risk of exposure can be controlled, are different to those applying to intervention. In the latter case, a balance has to be struck between risks arising from the existing exposure situation and the risks involved in intervention measures taken to reduce that exposure.

In 1996 the European Commission followed up the revised standards in ICRP 60 by adopting a revised directive (Directive 96/29/EURATOM). In Ireland, the implementation of the directive resulted in the following changes:

- use of the new ICRP concept of practices and intervention;
- explicit treatment of natural radiation sources; and
- explicit treatment of 'intervention' which includes emergency preparedness.

Directive 96/29/EURATOM is implemented in Irish legislation by the *Radiological Protection Act, 1991 (Ionising Radiation) Order, 2000, Statutory Instrument No. 125 of 2000*. This statutory instrument provides the framework for the national Radiological Protection Institute of Ireland (RPII) licensing system and details the general radiation protection requirements for all users of ionising radiation. Particular uses of ionising radiation which are covered by additional legislation include medical exposures and shipment of radioactive substances.

For medical ionising radiation protection in Ireland, *Statutory Instrument (S.I.) 478 of 2002 European Communities (Medical Ionising Radiation Protection) Regulations 2002* is the current legislation. S.I. 478 (2002) gives effect to European Council Directive 97/43/EURATOM on health protection of individuals against the dangers of ionising radiation in relation to medical exposures. Radiation used for imaging or treatment in medicine has the potential for great benefit for service users. However, it also has the potential for harm, which needs to be minimised and controlled, whilst still realising the benefits. The regulations of S.I. 478 (2002) describe the responsibilities and parameters for control for all organisations which hold ionising radiation equipment for medicine and for the individuals who make referrals for imaging or treatment and the individuals who act on these referrals. S.I. 478 (2002) also assigns significant responsibilities to the HSE to regulate several aspects of this legislation.

Table 1.1 Legislation Governing Ionising Radiation pertinent to Medical Ionising Radiation.

* Irish & EU Legislation	Main function of Legislation
EU Directive 80/836/EURATOM (amended by Directive 84/467/EURATOM)	basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation
Directive 96/29/EURATOM	Use of the new International Commission on Radiological Protection (ICRP) concept of practices and intervention; Explicit treatment of natural radiation sources; Explicit treatment of 'intervention' which includes emergency preparedness
Radiological Protection Act 1991 (Ionising Radiation) Order 2000, Statutory Instrument No. 125 of 2000	Implements EU Directive 96/29/EURATOM
Statutory Instrument (SI) 478 of 2002 European Communities (Medical Ionising Radiation Protection) Regulations 2002	Gives effect to EU directive 97/43/EURATOM on health protection of individuals against the dangers of medical ionising radiation.
Statutory Instrument No. 303 European Communities (Medical Ionising Radiation Protection) (Amendment) Regulation 2007	Amended the definition of "prescribers" of medical ionising radiation to include nurses on register of An Bord Altranais

** Copies of the statutory instruments are available to download from www.irishstatutebook.ie or www.facultyofradiologists.ie*

The HSE was required to establish a task force to address its responsibilities of oversight and guidance for the use of ionising radiation under S.I. 478 (2002). This task force and a National Radiation Safety Committee (NRSC) were established in 2007. The HSE Task Force commissioned a survey of current practice and equipment in the areas of radiology and nuclear medicine and radiotherapy. These surveys covered the arrangements for: structures for oversight; quality improvement; clinical audit; and justification and optimisation in relation to ionising radiation equipment in medicine and dentistry. S.I. 478 (2002) was amended in 2007 by *Statutory Instrument No. 303 European Communities (Medical Ionising Radiation Protection) (Amendment) Regulation 2007*. This amendment (S.I. 303 (2007)) provided for nurse prescribing of medical ionising radiation.

1.5.2 Regulatory Bodies Relating to Medical Ionising Radiation in Ireland

In order to place medical ionising radiation in an appropriate context, it is useful to describe the key regulatory and professional bodies involved.

Radiological Protection Institute of Ireland (RPII)

The Radiological Protection Institute of Ireland (RPII) is the national organisation with regulatory, monitoring and advisory responsibilities in matters pertaining to ionising radiation. The RPII was established in 1992 under the Radiological Protection Act, 1991 (Ionising Radiation) Order, 2000 (S.I. No. 125 of 2000). The Radiological Protection Institute of Ireland hold rights and responsibilities in relation to the custody, transportation, handling, holding, storage, use, manufacture, production, processing, importation, distribution, exportation or other disposal of radioactive devices, nuclear devices or irradiating apparatus. In particular, the RPII concerns itself with hazards to health associated with ionising radiation and with radioactive contamination in the environment.

It is a requirement under Article 19 of the Radiological Protection Act, 1991 (Ionising Radiation) Order, 2000 (S.I. No. 125 of 2000) that all undertakings licensed by the Institute shall appoint a Radiation Protection Adviser (RPA), and that the Institute shall establish and maintain a register containing the names of persons approved by the Institute, who may be appointed to act as RPA. The RPII's principal objectives are to:

- provide advice to the Government, the Minister for Environment, Heritage and Local Government and other Ministers on matters relating to radiological safety;
- provide information to the public on any matters relating to radiological safety which the Institute deems fit;
- maintain and develop a national laboratory for the measurement of levels of radioactivity in the environment, and to assess the significance of these levels for the Irish population;
- provide a personnel dosimetry and instrument calibration service for those who work with ionising radiation;
- regulate by licence the custody, use, manufacture, importation, transportation, distribution, exportation and disposal of radioactive substances, irradiating apparatus and other sources of ionising radiation;
- assist in the development of national plans for emergencies arising from nuclear accidents and to act in support of such plans;
- provide a radioactivity measurement and certification service;
- prepare codes and regulations for the safe use of ionising radiation;
- carry out or promote research in relevant fields;
- monitor developments abroad relating to nuclear installations and radiological safety generally and to keep the Government informed of implications for Ireland; and
- co-operate with the relevant authorities in other states and with appropriate international organisations.

National Radiation Safety Committee

The Health Services Executive (HSE) established a task force in April 2007 to consider and make recommendations in relation to implementation of S.I. 478 (2002), which deals with radiation protection of the patient/service user. The task force has also incorporated the amendments to S.I. 478 (2002) which were introduced by S.I. 303 in June 2007 in to its discussion and recommendations throughout this report. The task force submitted an interim report to the HSE at the end of July 2007 and a *Final Report of the HSE Task Force on Implementation of Statutory Instrument 478 (2002) and Statutory Instrument 303 (2007)* (HSE Task Force 2008) in April 2008.

Legislation S.I. 478 (2002) required the HSE to establish a National Radiation Safety Committee (NRSC) to advise the Chief Executive Officer (CEO) of the HSE on relevant matters relating to medical ionising radiation and to monitor the population dosage. It is recommended that the membership should not exceed 12 in number. It was recommended that the functions of National Radiation Safety Committee (NRSC) should include to:

- monitor the population radiation dose arising from medical uses of radiation;
- receive reports in relation to radiation incidents;
- define what are major and minor incidents;

- promote education in relation to the use of medical ionising radiation, including education of the public;
- advise on, facilitate and monitor appropriate training. The NRSC should be advised where equipment is in use that is past its due date of replacement;
- advise the CEO of the HSE on appropriate matters relating to radiation protection; and
- produce an annual report for the CEO of the HSE.

The Terms of Reference and Rules of Procedure of the National Radiation Safety Committee as required in S.I. 478 (2002) are outlined in Appendix 1.

1.5.3 Professional Bodies Relating to Medical Ionising Radiation in Ireland

There are a number of professional bodies in Ireland which influence medical ionising radiation. These are outlined below and detailed in Figure 1.2 but this is not intended as an exhaustive list.

Faculty of Radiologists

The Faculty of Radiologists of the Royal College of Surgeons in Ireland (RCSI) is the professional and academic body for Clinical Radiologists in Ireland. The Faculty's objectives are to advance the science, art and practice of radiology and its allied sciences and to promote education, study and research in radiology. The Faculty is the training body responsible to the Medical Council for the educational standards for radiologists and for sanctioning with the Medical Council, Radiation Protection Courses for non-radiologist medical practitioners undertaking medical ionising exposures under the control of the Practitioner-in-Charge. In association with the Royal College of Surgeons in Ireland, the Faculty of Radiologists offers specialist training and post-graduate examinations in Radiology. As per S.I. 478 (2002), the Faculty of Radiologists is the body that both the Medical and Dental Councils are required to consult in relation to the adoption of criteria for clinical audit (HSE Task Force 2008).

Radiography Services Managers (RSM) Association

The RSM Association is an association of Radiography Services Managers and Superintendent 1 Radiographers from Diagnostic Radiography and Radiation Therapy working within the public and private sectors in Irish healthcare. The main activities of the Association include:

- providing a communication network for it's members who are responsible for optimum patient service delivery and development within Radiology service;
- supporting the sharing of knowledge and experience;
- maintaining close relation with the Irish Institute of Radiography and Radiation Therapy on professional matters;
- promoting best practice among its members to ensure optimum standards and quality of service;
- promoting continuing education and development of Radiography managers;
- liaising with the centres of education for Radiography and Radiation Therapy on all matters of education and training;

The Association is available to the HSE and HSE-EA on issues pertaining to optimum management of Radiology service delivery and development.

Association of Physical Scientists in Medicine (APSM)

The Association of Physical Scientists in Medicine (APSM) is an association for Medical Physicists and Clinical Engineers working in health care and in medical applications in Ireland. The aims of the association are as follows:

- the promotion of the application of physics in medicine;
- establishing and maintaining professional standards;
- promoting professional development; and
- to offer appropriate advice concerning the application of physical sciences.

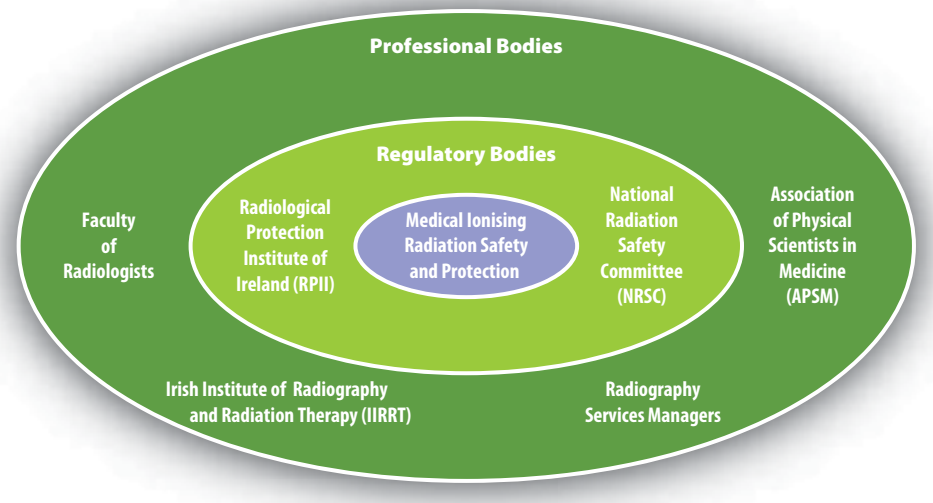
Irish Institute of Radiography and Radiation Therapy (IIRRT)

The Irish Institute of Radiography and Radiation Therapy (IIRRT) is the professional body for Radiographers and Radiation Therapists. The IIRRT is responsible for the development of professional standards in radiography and radiation therapy, which are essential in maintaining and also improving standards of care and management of patients/service users.

The functions of the IIRRT include to:

- promote and develop for the public benefit the science and practice of radiography and radiation therapy;
- engage with government authorities and other professional bodies in relation to professional issues on behalf of its membership;
- protect the professional interests of persons engaged in the practice of radiography and radiation therapy;
- liaise with the Radiographers Registration Board as established under the Health and Social Care Professionals Act 2005 (Government of Ireland 2005);
- ensure appropriate educational standards in radiography and radiation therapy are maintained,
- advise the Department of Health and Children on the validation of both national and non-national radiographic and radiation therapy qualifications,
- facilitate the continual professional development of its members, and
- promote, organise and conduct scientific meetings and conferences related to radiography and radiation therapy and allied subjects.

Figure 1.2 Diagram of Professional and Regulatory Bodies pertaining to Medical Ionising Radiation in Ireland



1.6 The National Integrated Medical Imaging System

In August 2007 the HSE initiated the National Integrated Medical Imaging System (NIMIS) Project, which have the main objectives of:

- being filmless and paperless within Radiology including electronic test / procedure requesting and result reporting;
- facilitating the controlled and rapid movement of patient image data throughout the health service;
- delivering on a large range of identified benefits obtained with the installation of such systems; and
- acting as a facilitator to the HSE Transformation Programme.

Already, approximately one-quarter of the acute hospitals in the HSE have installed Picture Archive and Communication Systems (PACS)/ Radiology Information System (RIS). Other aims and objectives include:

- installing PACS/RIS systems into all acute hospitals within the HSE;
- installing Speech Recognition system for the rapid production of radiology reports;
- facilitating the distribution of patient images throughout the HSE, subject to appropriate security and access requirements
- ensuring the system is capable of accepting all images captured in an industry standard format;
- extending the solution to ensure the integration of Cardiology Angiography and Ultrasound images;
- implementing of electronic ordering / requesting of radiology examinations;
- integrating with GP messaging systems for the acceptance of procedure requests and rapid distribution of reports back to the GP;
- providing support for Educational and Research activities at both a local and national level; and
- ensuring that the local and wide area IT network infrastructure is sufficient for the requirements identified.

The Health and Safety Authority (HSA)

The HSA has overall responsibility for the administration and enforcement of health and safety at work in Ireland including:

- monitoring compliance with legislation at the workplace and taking enforcement action (up to and including prosecutions); and
- acting as the national centre for information and advice to employers, employees and self-employed on all aspects of workplace health and safety; and
- promoting education, training and research in the field of health and safety.

There are a wide range of activities that fall under the remit of the HSA including:

- promoting of good standards of health and safety at work;
- inspecting of all places of work and monitoring of compliance with health and safety laws;
- investigating of serious accidents, causes of ill health and complaints;
- undertaking and sponsoring research on health and safety at work;
- developing and publishing codes of practice, guidance and information documents;
- providing an information service during office hours;
- developing new laws and standards on health and safety at work;
- consulting with employers, employees and their respective organisations; and
- developing sound policies and good workplace practices the HSA works with various advisory committees and task forces which focus on specific occupations or hazards.

1.7 Legislation Pertaining to Nurse Prescribing of Medical Ionising Radiation (X-Ray)

The policy for introducing nurse prescribing of ionising radiation (X-Ray) originates in the Department of Health and Children (DOHC). The Minister for Health and Children appreciated the need to improve patient care and prioritised the introduction of nurse prescribing of medical ionising radiation (X-Ray) by amending the relevant statutory instruments. In June 2007 the Minister signed into Irish law *Statutory Instrument* (S.I.) No.303 of 2007 (Government of Ireland 2007) which amended S.I. 478 (2002) *European Communities (Medicinal Ionising Radiation Protection) Regulations 2002*. This S.I. incorporated an amendment to the previous definition of prescriber to include nurses as "prescribers". S.I. No. 303 European Communities (Medical Ionising Radiation Protection) (Amendment) Regulation 2007 states that a nurse prescriber is:

> *"(d) a person whose name is entered on the register of nurses as maintained by An Bord Altranais established by the Nurses Act 1985 and who meets the standards and requirements set down by An Bord Altranais from time to time to allow them to refer individuals for medical exposures to a practitioner".*

In practice this legislation authorises a nurse to refer an individual (patient/service user) to a practitioner for medical exposure provided that the nurse is registered with An Bord Altranais and has successfully completed an education programme (approved by An Bord Altranais) to prepare for this role.

The Health Service Executive was tasked with the implementation of nurse prescribing of Ionising Radiation (X-Ray) in services. The Office of the Nursing Services Director established the *Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray)* (Appendix 2).

1.8 Professional Regulation

An Bord Altranais (ABA) is the statutory regulatory body for nurses and midwives in Ireland. It was established under the Nurses Act (1950) and currently operates under the Nurses Act 1985. Functions of An Bord Altranais include to: maintain a register of nurses; inquire into the conduct of registered nurses if professional misconduct or fitness to practice is queried; provide for nurse education and give guidance to the profession. All registered nurses are required to work within the An Bord Altranais *Code of Professional Conduct* (ABA 2000a) and the *Scope of Practice Framework* (ABA 2000b). An Bord Altranais also provides for

the education and training of nurses by establishing professional standards and requirements for nurse education; providing an approval process for nurse education programmes, and monitoring and evaluating the predetermined standards in practice.

Upon a formal request from the Department of Health and Children, An Bord Altranais developed and published the *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)* (ABA 2008). The requirements and standards specify the education and training to prepare nurses for prescribing medical ionising radiation (X-Ray) and were developed in consultation with the Faculty of Radiologists. This *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)* (ABA 2008) also guides education providers and health care institutions in relation to the development, delivery and evaluation of nurse education programmes for authority to prescribe ionising radiation (X-Ray). (This document is available to download from www.nursingboard.ie) An Bord Altranais states that:

> *"The objective is to create nurses that are competent and confident in their authority to prescribe ionising radiation (X-Ray) at the point of qualification and who have embraced a philosophy of life-long learning in order that they continue to deliver competent, responsive and flexible care in a variety of clinical settings" (An Bord Altranais 2008 p5).*

The requirements and standards outline the approval process for education providers in relation to authority to prescribe ionising radiation (X-Ray). Nurse education programmes must comply with the specified:

- learning outcomes;
- competencies for authority to prescribe ionising radiation;
- syllabus/indicative content;
- theoretical and clinical instruction; and
- scope of practice for prescribing ionising radiation (X-Ray).

1.9 Scope of Practice

The *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)* (ABA 2008) lists *'the usual range of X-Rays that a registered nurse who has successfully completed an approved education programme can prescribe. The list is provided as a guide when determining the range of X-Rays an individual can prescribe and it is important the nurse must consider her/his scope of practice and any local guidelines/policies relating to this role'* (ABA 2008 p18). Table 1.2 outlines this list.

Table 1.2 Plain Film X-Rays a Registered Nurse Competent in Nurse Prescribing of Medical Ionising Radiation (X-Ray) May Prescribe

Chest
Chest
Abdomen
Abdomen
Pelvis
Pelvis
Hip
Upper Limb
Shoulder
Elbow
Wrist
Clavical
Acromio-clavicular joint
Humerus
Forearm
Scaphoid
Hand
Finger/thumb
Lower Limb
Femur
Knee
Ankle
Foot
Patella
Tibia and fibula
Toe

The registered nurse with authority to prescribe ionising radiation, practising within their scope of practice, can make an independent decision to prescribe medical ionising radiation (X-Rays) and is professionally accountable for his or her decision. It is understood while the nurse operating within his/her scope of practice to prescribe medical ionising radiation (X-Ray), it is the patients' named Consultant who bears ultimate responsibility for patient care in a particular area of the hospital where the nurse functions as part of the multidisciplinary team. This is the Consultant who assumes responsibility for treatment actions that may be necessary as a result of findings on radiographic studies that the nurse may have requested. The request cards for a radiographic study written by the nurse must also contain the name of the Consultant. Request cards may be electronic in those hospitals where electronic systems have replaced hand-written cards.

Prior to making a decision to prescribe medical ionising radiation (X-Rays), the registered nurse with authority to prescribe must satisfy him/herself that they are working within their scope of practice. Thus, to this end, nurses should follow a checklist similar to that described in Table 1.3.

Table 1.3 Checklist for Nurses with Authority to Prescribe Medical Ionising Radiation (X-Ray)

The nurse must:

- Ensure they have successfully completed the An Bord Altranais approved education programme;
- Ensure they are entered on the database of registered nurses with authority to prescribe ionising radiation (X-Ray);
- Be familiar and comply with legislation, regulation and HSE/local policies for medical ionising radiation;
- Prescribe within his/her scope of practice and within the parameters of the local guideline/ policy for nurse prescribing of medical ionising radiation (X-Ray). See Appendix 3 for an example of such a policy;
- Enter ionising radiation (X-Ray) prescriptions on the nurse prescribing ionising radiation minimum dataset;
- Engage in audit of their prescribing practice as required by their employer;
- Participate in the evaluation of nurse prescribing of ionising radiation (X-Ray); and
- Undertake continuing professional development on an ongoing basis.

1.10 Clinical Indemnity Scheme

The Clinical Indemnity Scheme (CIS), run by the States Claims Agency, provides clinical indemnity for nurse prescribing of medical ionising radiation (X-Ray) on the basis of enterprise liability. Therefore, relevant nurses and clinical supervisors in the enterprises/health service provider covered by the CIS are indemnified for clinical negligence in relation to nurse prescribing of medical ionising radiation (X-Ray) (Appendix 4). CIS state:

*"with respect for nurse prescribing of ionising radiation, the CIS provides indemnity cover to nurse prescribers and to registered practitioners who act as clinical supervisors of nursing prescribers of ionising radiation whilst they undergo training" (*States Claims Agency 20th April 2009 Appendix 4).

1.11 Database

For the purpose of monitoring, a database of nurses with authority to prescribe ionising radiation (X-Ray) will be maintained. This web-based database (described in Chapter Five) will be accessible to approved users at local, area and national level. This includes the Chair of the Hospital Radiation Safety Committee.

1.12 Summary

The introduction of nurse prescribing of medical ionising radiation (X-Ray) is primarily enabled by:

- the Statutory Instrument (S.I.) No.303 of 2007 amending *S.I. No. 478 of 2002 European Communities (Medicinal Ionising Radiation Protection) Regulations 2002;* and
- *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)* (An Bord Altranais 2008).

Radiology governance in Ireland is guided and overseen by professional and regulatory bodies pertaining to radiology, such as the Faculty of Radiologists and the National Radiation Safety Committee. Nurse prescribing of medical ionising radiation (X-Ray) occurs in this radiology governance context and within its own professional regulation from An Bord Altranais and the guidance from the Health Service Executive (HSE). The Clinical Indemnity Scheme (CIS), run by the States Claims Agency, provides clinical indemnity for nurse prescribing of medical ionising radiation (X-Ray) for both the nurse and his/her clinical supervisor within an indemnified enterprise (service/organisation). It is within this context that nurse prescribing of medical ionising radiation (X-Ray) is being introduced in Ireland. Chapter Two will now describe the project development to oversee and guide the introduction of this initiative in the Irish healthcare setting.

CHAPTER TWO:

Project Governance and Development

2.0 Introduction

Nurse prescribing of medical ionising radiation (X-Ray) is a significant change initiative for the Irish health care service, with implications for the health care system as a whole, and for patients or service users in terms of access to services in particular. Following the changes in legislation and the development of the *Requirements and Standards for Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)* (An Bord Altranais 2008), the HSE was requested by the Minister for Health and Children through the Department of Health and Children to put in place structures to support the introduction and implementation of nurse prescribing of medical ionising radiation (X-Ray) in a systematic, cohesive and sustainable manner. This resulted in the establishment of the *Advisory Committee for the Implementation of the Nurse Prescribing of Medical Ionising Radiation (X-Ray)* (National Advisory Committee). The project governance was underpinned by the HSE Office of the Nursing Services Director's vision for nursing, a set of core principles and the activities for change as recommended by the *Improving Our Services: A User's Guide to Managing Change in the Health Service Executive* (HSE 2008a). In developing nurse prescribing of medical ionisation radiation (X-Ray), the *National Advisory Committee* drew on the experience of the *Resource and Implementation Group for the Nurse and Midwife Prescribing*, which led the national implementation of medicinal product prescribing by nurses and midwives from November 2006 to December 2008.

This chapter outlines the project development and the governance structure for the project. Specifically, the *Advisory Committee for the Implementation of the Nurse Prescribing of Medical Ionising Radiation (X-Ray)* is discussed. Associated communication and evaluation strategies are also outlined in this chapter.

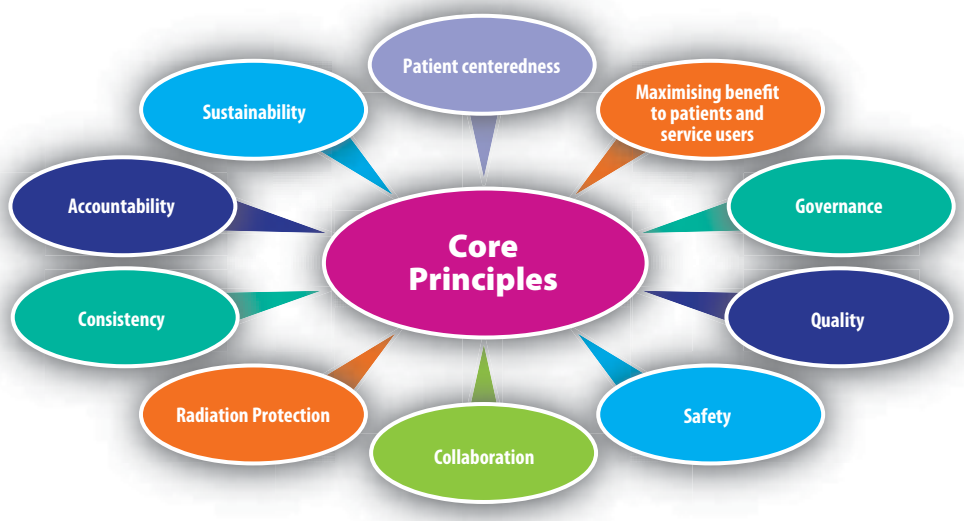
2.1 Vision

The main priority of the Office of the Nursing Services Director (ONSD) is to *'provide leadership, support excellence and build capacity in nursing and midwifery in order to enhance patient care and delivery'* (ONSD 2008a). The work of the *Advisory Committee for the Implementation of the Nurse Prescribing of Medical Ionising Radiation (X-Ray)* is congruent with and supports achieving this vision. The aim of the initiative is to enhance the health system's capacity to respond to service need by maximising nurse prescribing of ionising radiation (X-Ray) as a key competency in collaboration with the multidisciplinary team. Developing nurses that are capable and confident in their authority to prescribe ionising radiation (X-Ray) will aid the delivery of competent and responsive services in a variety of clinical settings.

2.2 Core Principles

Ten principles underpin the national project in supporting nurse prescribing of medical ionising radiation (X-Ray). The principles (Figure 2.1) guide the project's actions and are the screen through which all decisions are tested and chosen.

Figure 2.1: Core Principles



Source: Adapted from the Guiding Framework for the Implementation of Nurse and Midwife Prescribing, Office of the Nursing Services Director, HR Directorate, Health Service Executive (2008b)

The core principles guiding the project are defined as follows:

- **Patient centredness** means that the nurse prescribing of medical ionising radiation (X-Ray) is organised, located and accessed in ways that take greater account of the needs and preferences of patient/service users. It encourages shared decision-making where patients are facilitated to have greater responsibility for their own health through the provision of high-quality information.
- **Maximising benefit to patients or service users** means effectiveness and efficiency in nurse prescribing of medical ionisation radiation (X-Ray) based on good governance and leadership, data management systems and evidence-based practice.
- **Governance** encompasses a number of different elements including advocating for positive attitudes and values about safety and quality in nurse prescribing of medical ionising radiation (X-Ray); planning and organising control structures for safety and quality in nurse prescribing of X-Rays; organising and using data and evidence in nurse prescribing; and ensuring patient or service user focus and input.
- **Quality** means that evidence-based standards are developed in partnership and collaboration with the regulatory bodies and the interdisciplinary team; the standards are audited; and that continuous improvement is valued.
- **Safety** means that patient or service user protection is paramount and of the highest priority and is achieved through the identification and minimisation of potential hazards.
- **Collaboration** means co-operation and communication between nurses with the authority to prescribe medical ionising radiation (X-Ray) and other members of the multidisciplinary team. Approaching service development with collective wisdom, attained through consultation and collaboration, achieves more refined and complete outcomes of care for patients/service users.

- **Radiation Protection** relates to nurse prescribing of medical ionising radiation (X-Ray), when the benefits must outweigh the risks as noted by the radiation protection principles of:
  - **Justification** - involves a demonstration that every exposure is justified in terms of the benefit it brings against the risk.
  - **Optimisation** - is to ensure that the magnitude of individual doses and the number of people exposed should be kept as low as reasonably achievable **- ALARA Principle**. ALARA is an important principle in radiation protection and aims to minimise exposure and associated risks while keeping in mind that some exposure may be acceptable.
- **Consistency** means a coherent and collective approach within each health care setting to the introduction of nurse prescribing of medical ionising radiation (X-Ray), underpinned by the implementation framework. It is anticipated that this will be achieved through the building of partnerships and networks across and within the whole health service where the nurse prescribing of medical ionising radiation (X-Ray) role is implemented.
- **Accountability** means that financial, professional and organisational responsibilities are explicit so that quality, efficiency and effectiveness in nurse prescribing of medical ionising radiation (X-Ray) is achieved. Monitoring and evaluation demonstrates that available resources are used efficiently and effectively. The accountability for nurse prescribing of medical ionising radiation (X-Ray) for the specific patient or service user rests fully with the nurse, upon qualification.
- **Sustainability** means that the introduction of nurse prescribing of medical ionising radiation (X-Ray) is planned in a way that the service will continue to grow and be imbedded in the health system over a period of time, especially after the specific implementation project ends.

2.3 Activities for Effective Change

Understanding the cultural and people aspects of change can greatly enhance our capacity to effectively manage change. In addition to the need for a strong people orientation, the following activities (Figure 2.2) are recommended as essential supports for successful change (HSE 2008a). These activities for change guided this project at its early stages of development and ultimately guided the national implementation structures for nurse prescribing of medical ionising radiation (X-Ray).

Figure 2.2: Activities for Successful Change

HSE (2008a) Improving Our Services: A Users' Guide to Managing Change in the Health Service Executive (p10). Building commitment

2.4 Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray)

The Office of the Nursing Service Director in the HSE was charged with creating a national standardised approach to implementing nurse prescribing of medical ionising radiation (X-Ray) in line with service need, best practice and recent legislation and regulatory directives. To this end, it established a national *Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray) (National Advisory Committee)* in September 2008.

The functions of the *National Advisory Committee* were to advise and oversee the establishment of nurse prescribing of medical ionising radiation (X-Ray) in the Irish health care services and to determine the most appropriate approach to introducing the initiative. Membership is comprised of representatives of key stakeholder bodies (Appendix 2). The terms of reference of the committee focused on the following key areas:

- developing clinical governance arrangements for the introduction of nurse prescribing of medical ionising radiation (X-Ray);
- service/site preparation and nurse selection;
- nurse selection, development and implementation of the educational preparation for nurses prescribing of medical ionising radiation (X-Ray);
- audit and monitoring of nurse prescribing of medical ionising radiation (X-Ray); and
- communication.

The *National Advisory Committee* established working groups or sub-committees to develop the initiatives outlined in Table 2.1.

Table 2.1: Key Work of the National Advisory Committee

- A guiding framework for implementation of nurse prescribing of medical ionising radiation (X-Ray), to include governance and communication strategies;
- Education programme design, delivery and schedules;
- A minimum data set and monitoring system for nurse prescribing of medical ionising radiation (X-Ray) activity;
- A national single database to record nurses with authority to prescribe medical ionising radiation (X-Ray);
- A national policy template for nurse prescribing of medical ionising radiation (X-Ray) which can be adapted by services at local level;
- A process/flow map outlining the cycle from patient/service user assessment to reporting of radiological image; and
- Guidance on clinical audit.

2.5 National Programme Board

An Education Sub-Committee was established by the National Advisory Committee to oversee the development, scheduling, delivery and evaluation of the nurse education programme. Membership (Appendix 5) consists of representatives of key stakeholders including Nurse Educators, Consultant Radiologist (representing the Faculty of Radiologists of the Royal College of Surgeons in Ireland), Radiographers, Physicists, and the Office of the Nursing Services Director. The education programme was designed in accordance with the *Requirements and Standards for Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)* (An Bord Altranais 2008) and was submitted for approval to An Bord Altranais in November 2008 (Appendix 6). Approval was granted. An education committee will remain in place after the *National Advisory Committee* has finished its work and will become the National Programme Board. This board will oversee the delivery and evaluation of the programme - *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)*.

2.6 Local Implementation Group

This significant role expansion for nurses will require robust systems in terms of clinical governance and a collaborative, multidisciplinary approach to implementation. A Local Implementation Group (LIG) reporting to the hospital Radiation Safety Committee will be established within services where nurse prescribing of medical ionising radiation (X-Ray) is proposed. The purpose of the Local Implementation Group (LIG) is to ensure that practice is safely introduced and implemented within a collaborative multidisciplinary context. The Local Implementation Groups will be guided by the terms of reference outlined in Table 2.2.

Table 2.2 Terms of Reference for Local Implementation Groups

- Identify suitable clinical areas for the introduction of nurse prescribing of medical ionising radiation (X-Ray) within the local health services.
- Implement policies, protocols and guidelines to support the practice change.
- Ensure robust clinical competency assessment systems are in place.
- Establish a link to the national database recording nurses' prescribing of ionising radiation (X-Ray).
- Monitor impact of the change in practice on radiology services.
- Ensure risk management structures are in place.
- Review any unexpected incidents or events.
- Ensure audit systems and feedback mechanisms are in place including feedback\learning mechanisms.
- Oversee evaluation process of all aspects of the change.
- Report to Hospital Radiation Safety Committee.

It is envisaged that the functions of the Local Implementation Groups will be subsumed into the overall radiology services' governance arrangements once the nurse prescribing of medical ionising radiation (X-Ray) is embedded in services.

The Local Implementation Group may include representation from the stakeholders listed in Table 2.3.

Table 2.3 Local Implementation Group Membership

- Consultant Radiologist
- Radiography Management
- Director of Nursing Services
- Chairperson of the Radiation Safety Committee
- Medical consultant as appropriate (for example Consultant in Emergency Medicine) or Clinical Director
- Chief Executive Officer/General Manager
- Director of Centre for Nurse /Children's Nurse Education
- Director of Nursing and Midwifery Planning and Development
- Nurse participating in the Nurse Education Programme

The Radiation Protection Adviser (RPA), Medical Physics Expert (MPE), and Radiation Safety Officer (RSO) may be relevant LIG members dependant on local circumstances.

2.7 Communication Strategies

The importance of communication with all key stakeholders was considered at the outset of the project and appropriate strategies were put in place. This communication occurred through the *National Advisory Committee* and the *Office of the Nursing Services Director.*

The *National Advisory Committee* encompassed representation from statutory bodies, HSE management, professional associations, and staff associations (Appendix 2). This representation facilitated information sharing with the various groups. In addition, the *National Advisory Committee* decided that information relating to the project would cascade to Directors of Nursing and Directors of Nurse Education and their teams through a dual approach. Firstly, to the Office of the Nursing Services Director and secondly though the National Hospital Office (NHO) and Primary, Community and Continuing Care (PCCC) pillars (voluntary and HSE). The *National Advisory Committee* also established contact and consulted with the following professional bodies, executive bodies, statutory agencies, and education providers as described in Table 2.4.

Table 2.4 National Advisory Committee and Office of the Nursing Services Director Consultation

Radiology Bodies

- Faculty of Radiologists in Ireland
- National Integrated Medical Imaging System (NIMIS)
- College of Life Sciences, School of Medicine & Medical Science, Health Sciences Centre, University College Dublin
- The National Radiation Safety Committee (NRSC)
- Irish Institute of Radiography and Radiation Therapy (IIRRT)
- Radiography Services Managers (RSM) Association
- Association of Physical Scientists in Medicine, (APSM)
- Radiation Protection Special Interest Group, Association of Physical Scientists in Medicine (APSM)

HSE

- National Director Primary, Community and Continuing Care
- National Director National Hospital Office
- Chief Executive Officers, Dublin Academic Teaching Hospitals
- Senior Management, Environmental Health, Population Health

Medicine

- Irish Association of Emergency Medicine
- Irish College of General Practitioners
- College of Anaesthetists
- Royal College of Surgeons in Ireland
- Royal College of Physicians in Ireland

Nursing

- An Bord Altranais (Irish Nursing Board)
- National Council for the Professional Development of Nursing and Midwifery
- Directors of Nursing (Dublin Academic Teaching Hospitals)
- Directors of Nursing (Irish Association of Directors of Nursing and Midwifery)
- Directors of Nursing (Rural Academic Teaching Hospitals)
- Professional Nursing Conferences

In October 2008 a series of project presentations were held in tandem with the Commission on Nursing consultation process. Articles describing the implementation of nurse prescribing of ionising radiation (X-Ray) were published in the HSE Newsletter *Health Matters* and in the *National Council for the Professional Development of Nursing and Midwifery* quarterly newsletter (Spring 2009). Communication at organisational level is discussed further under the implementation framework for services in Chapter Four.

2.8 Evaluation

From a project governance viewpoint, evaluation of the implementation of nurse prescribing of medical ionising radiation (X-Ray) is planned. This evaluation will focus on:

- the education programme;
- the project itself; and
- the impact of the initiative on services.

Evaluation of the education programme will occur as outlined in the programme curriculum. It will be the responsibility of the education programme board to lead and oversee evaluation of the education programmes and to provide an annual report to An Bord Altranais.

Evaluation of the project itself will be led by the Office of the Nursing Services Director. The evaluation of the implementation of nurse prescribing of medical ionising radiation (X-Ray) will occur on an ongoing basis and the first report is anticipated for Autumn 2009. Evaluation will have a specific focus on monitoring the uptake of nurse prescribing of medical ionising radiation (X-Ray) with regards the number and type of medical ionising radiation (X-Rays) prescribed by nurses. This will be facilitated by the designated national data collection system (see Chapter Five). Evaluations will underpin the further expansion of the initiative across the HSE in a safe and timely manner.

Evaluation of the impact of nurse prescribing of medical ionising radiation (X-Ray) on services will be the responsibility of the Local Implementation Groups. Evaluation from a service perspective and service user perspective will include examining the patient or service user outcomes and service outcomes in terms of benefits, safety and satisfaction with the service. Outcome measurement should take into account key stakeholder's and employer's views. The evaluation will be informed by the national minimum dataset for medical ionisation prescribing and clinical audits required of nurses who prescribe medical ionising radiation (X-Ray).

2.9 Summary

Following the changes in legislation, namely *Statutory Instrument 303* (2007) and development of the *Requirements and Standards for Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)* (ABA 2008), a project implementation structure was developed to support the introduction and establishment of nurse prescribing of medical ionising radiation (X-Ray) in a systematic, cohesive and sustainable manner. This structure primarily consisted of the *National Advisory Committee* and associated sub-groups developing the education programme and implementation framework. A *National Education Programme Board* to oversee the education programme and *Local Implementation Groups* to oversee implementation of nurse prescribing of medical ionising radiation (X-Ray) at service/local level has been established. Communication with key stakeholders from the HSE, radiology, medical and nursing professional bodies and organisations has occurred throughout the project. Evaluation strategies focus on process and outcome measurements of the education programme, the project itself, and the impact of this initiative on services.

CHAPTER THREE:

Education Programme for Nurse Prescribing of Medical Ionising Radiation (X-Ray)

3.0 Introduction

Chapter Three outlines the educational preparation of nurses for authority to prescribe ionising radiation, including a detailed description of the education programme, from curriculum design to the theoretical and clinical experience requirements to competency assessment. The role of the clinical supervisors and the selection process for nurses are discussed. The education programme and its structure in terms of the theoretical and clinical instruction components are guided by the *Requirements and Standards for Nurses Education Programme for Authority to Prescribe Ionising Radiation (X-Ray)* (An Bord Atranais 2008). The *National Advisory Committee* established an Education Sub-Committee to oversee the planning, timetabling, delivery and evaluation of the nurse education programme. Membership consists of representatives of key professional stakeholders: Nurse Educators, Consultant Radiologist, Radiographers, Physicists and Office of the Nursing Services Director (Appendix 5). Programme design occurred as per An Bord Altranais requirements and standards. The programme called *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)* was submitted to An Bord Altranais for approval in November 2008. Approval was granted and the first education programme is planned for delivery in Summer 2009.

3.1 Education Programme Providers

The Centres of Nurse/Children's Nurse Education in partnership with the Faculty of Radiologists of the Royal College of Surgeons In Ireland (RCSI) are the key education providers of the *Nurse Education Programme for Authority to Prescribe Ionising Radiation (X-Ray)*. The delivery of the education programme at theoretical and clinical level requires multi-professional support and input. This involves collaboration from directors of nursing, nurse and general management teams, departments of radiology in associated health care institutions and relevant external key professional stakeholders, including the Faculty of Radiologists of the Royal College of Surgeons in Ireland (RCSI).

3.2 Aim of the Programme

The purpose of the education programme is to ensure that upon completion the nurse is equipped with the knowledge, skill and competence to prescribe medical ionising radiation (X-Ray) safely and appropriately within his/her scope of practice (An Bord Altranais 2008).

3.3 Learning Outcomes

The expected learning outcomes of the education programme are described by An Bord Altranais (ABA) as enabling the nurse to:

- demonstrate a systematic understanding of the regulatory framework associated with authority to prescribe ionising radiation (X-Ray), including the legislation and professional guidelines supporting safe practice;
- critically utilise evidence-based knowledge and the skill of patient/service user assessment and consultation to achieve a holistic approach to patient/service user care in prescribing medical ionising radiation (X-Ray);
- apply clinical decision making skills in relation to prescribing ionising radiation (X-Ray) within her/his scope of practice;
- demonstrate an understanding of radiological sciences in relation to ionising radiation (X-Ray) and its implication for patient/service user safety; and
- demonstrate effective communication skills and knowledge of multi-disciplinary management in the safe and appropriate use of ionising radiation (X-Ray) (ABA 2008).

3.4 Programme Accreditation and Award

The programme outcomes as developed by An Bord Altranais, in collaboration with the Faculty of Radiologists, are in line with those required for the National Qualifications Authority of Ireland (NQAI) Level 8 Award.

This programme will be awarded at special purpose level. An award is a permanent record of the competencies achieved by the recipient at a particular point in time. This type of award is applicable to specific relatively narrow purposes and may form the basis for transfer into more broadly based major awards at the same level, thus facilitating progression on to higher awards in accordance with Section 23 (1)(a)(i) of the Qualifications (Education and Training) Act (1999). The programme is currently in receipt of Category One approval from An Bord Altranais and has been developed in consultation with the Faculty of Radiologists of the Royal College of Surgeons In Ireland (RCSI).

3.5 Programme Philosophy

Individuals in receipt of nursing services have the right to receive the highest quality of nursing care and respect for their uniqueness and dignity. Nurses who undertake the education programme *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)* will be competent practitioners in this expanded area of clinical practice. Therefore, these nurses are in a pivotal position to deliver a more responsive, effective, timely and efficient service to improve the patient's/service user's journey within the health care service.

A central tenet of the philosophy underpinning the education programme is the belief that nurses as adult learners will bring with them a wealth of life experience, professional expertise and motivation for learning. Learning is seen as a life-long, collaborative process and is best achieved by involving the learners in the learning process. A range of learner-focussed teaching strategies will be used to facilitate the perception, understanding and the experience of the nurse as the central learning resource. The facilitators of learning will guide and support the development of knowledge, skills and competence. The

programme will strive to further promote confidence, self-directed life-long learning and self-evaluation. Teaching and learning strategies will support deeper understanding and further the development of reflection, analysis, problem solving and the acquisition of competence.

3.6 Curriculum Design

The term 'curriculum' is used to describe a plan or design on which educational provision is based. It is not static, but rather a developing, dynamic creation that requires constant monitoring and modification. The curriculum in nursing does not exist in isolation; thus, it must reflect the changing nature of health, health service delivery, society, education, nursing practice, nurse education and training and its emerging themes. Medicine, law, science, ethics and statutory regulation inform the authority to prescribe ionising radiation (X-Ray). Consequently, the programme *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)* will require educational input from a variety of health care professionals and service users to achieve learning outcomes. The purpose of clinical instruction and placement is to develop competence to prescribe ionising radiation (X-Ray). This will involve the supervision of episodes of prescribing ionising radiation (X-Ray). This will also allow the opportunity for discussion and provision of feedback on the supervised practice to the nurse.

3.7 Application Process and Criteria

Nurses who wish to undertake the education programme *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)* must be registered in the General and/or Children's division of the Register maintained by An Bord Altranais. For the purpose of this curriculum, the term 'nurse' refers to both a Registered General Nurse (RGN) and/or a Registered Children's Nurse (RCN). Nurses must have the required years of clinical practice experience at post-registration level.

The selection of nurses to participate in this programme will be supported by the Director of Nursing. Table 3.1 outlines the selection criteria for nurses wishing to undertake the programme.

Table 3.1: Entry Criteria for Nurses to the Education Programme.

Entry criteria to the nurse education programme require the nurse to:

- Confirm his/her current registration with An Bord Altranais in the General and/or Children's division of the Register;
- Undertake the required preparatory reading in advance of the programme;
- Commit to attendance for the theoretical component of the programme;
- Have a designated clinical supervisor, for example a registered medical practitioner as agreed by the Local Implementation Group. The clinical supervisor(s) must agree to observe, supervise, provide guidance/feedback, undertake and record the clinical assessments, to deem the nurse competent or not competent to prescribe medical ionising radiation;
- Confirm his/her intention to practice as a nurse with authority to prescribe ionising radiation (X-Ray) in the area of identified clinical need; and
- Undertake continuing professional development activities to maintain professional competence.

The nurse's employer must be satisfied that the criteria outlined above are met and complete the checklist listed in Table 3.2. A short application form (Appendix 6) is required.

Table 3.2: Employers Checklist for Nurse Selection to the Education Programme

The nurse's employer must be satisfied with the:

- Evidence of the clinical/service need for the nurse to have the authority to prescribe ionising radiation (X-Ray) to improve patient/client care;
- Evidence of the nurse's potential and ability to apply prescribing principles taught on the education programme in their clinical area;
- Nurse's competence in taking a patient history, conducting patient /service user assessment, clinical reasoning and decision making;
- Nurse's access to a designated clinical supervisor(s), for example a registered medical practitioner - as agreed by the Local Implementation Group.
- Clinical supervisor agreement to observe, supervise, provide guidance/feedback, document and undertake the clinical assessments to deem the nurse competent or not competent to prescribe ionising radiation (X-Ray);
- Completed Nurse Prescribing Ionising Radiation (X-Ray) Declaration Form (see Appendix 7) which is signed and dated with each application; and
- Support required for the nurse to undertake and complete all components of the programme within the specified time-frame.

The Director of Nursing, Clinical Supervisor and Head of Radiology (Consultant Radiologist) must complete the Nurse Prescribing Ionising Radiation (X-Ray) Declaration Form (Appendix 7). The declaration form is signed and dated with each application (Appendix 6).

3.8 Programme Duration

The theoretical and clinical instruction of the programme should be completed in three months and must be completed within six calendar months from the date of commencement of the programme. *The programme will consist of no less than 30 hours theoretical instruction and no less than 10 episodes of supervised prescribing ionising radiation (X-Ray) and include demonstration of competence in a suitable practice placement* (An Bord Altranais 2008). A record of attendance of the theoretical component will be maintained.

3.9 Learning Resources

The programme will be co-ordinated by the Centres of Nurse/Children's Nurse Education, in collaboration with the Faculty of Radiologists of the RCSI. The radiological sciences element of the programme will be taught by a Consultant Radiologist (or Specialist Registrar), Physicist in Medicine, Specialist Clinical Radiographer, Radiation Safety Officer and other healthcare professionals within the multidisciplinary team with the appropriate education/qualifications and expertise.

Each nurse on the programme is expected to assume responsibility for his/her own learning with lecturers and clinical personnel facilitating this process. Nurses will have access to library resources, information technology and teaching accommodation to support their learning whilst undertaking this education programme.

3.10 Theoretical Instruction

The theoretical instruction outlined in the syllabus / indicative content in the *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (XRay)* (An Bord Altranais 2008) forms the basis of the programme design. The theoretical instruction is divided into three discrete units of learning:

Unit 1: Ionising Radiation and Protection

Unit 2: Professional Accountability and Responsibility (Legal and Ethical Aspects)

Unit 3: Principles of the Prescribing Process for Ionising Radiation (X- Ray).

The descriptors of the units of learning are outlined in full in Appendix 8.

Table 3.3: Aims of the Units of Learning

Unit of Learning	Aim
Unit 1: Ionising Radiation and Protection	Critically evaluate the principles of ionising radiation and the integration of these principles in the practice of prescribing ionising radiation (X-Ray).
Unit 2: Professional Accountability and Responsibility and the Associated Legal and Ethical Aspects	Explore professional responsibility and accountability in the context of the regulatory framework with regard to the authority to prescribe ionising radiation (X-Ray). Critically appraise the legislative framework and ethical implications underpinning the authority to prescribe ionising radiation (X-Ray).
Unit 3: Principles of the Prescribing Process for Ionising Radiation (X- Ray)	Prepare the nurse to integrate the required knowledge, skills and attitudes to support the practice of prescribing ionising radiation (X-Ray). Further develop effective interpersonal skills necessary for collaborative working relationships with other relevant health care professionals to facilitate the nurse with authority to prescribe ionising radiation (X-Ray). Enhance the caring therapeutic nurse – patient / client / service user relationship in the context of this expanded area of practice.

3.11 Clinical Practicum

The aim of the clinical practice experience is to enable the nurse to integrate theory and practice, facilitate the progressive development of the clinical skills, knowledge and competence in relation to prescribing medical ionising radiation (X-Ray) and thereby achieve the explicit learning outcomes. The clinical component of the education programme will be provided in the specific clinical area in which the nurse is practising.

An Bord Altranais states:

- the respective education providers must declare that their programmes/units of learning comply with An Bord Altranais *Requirements and Standards for Nurse Post-Registration Education Programmes;*

- all Units of learning, including evidence of self-audit must be in compliance with An Bord Altranais *Requirements and Standards for Nurse Post-Registration Education Programmes* (An Bord Altranais 2007 p20).

The experience in the clinical practicum is an integral component of the education programme. The nurse must be supported, guided, supervised and assessed by the relevant clinical personnel who must be fully acquainted with the expected learning outcomes. The programme coordinator, in liaison with the clinical personnel, will ensure the clinical experience provides an optimum learning environment. The creation and maintenance of a quality clinical learning environment demands that all registered nurses maintain and enhance the development of the following factors:

- policies, protocols and guidelines, evidence-based care and research-based standards of care should be evident. It should be evident that the clinical practice area complies with all health care institution and health and safety policies;
- appropriate structures in relation to staff development, in-service and continuing professional education should exist;
- structured learning opportunities should be available in all clinical practice areas;
- reflective practice is encouraged both in and on practice; and
- programme participants' evaluation and participation in audit of the clinical practice placement should be in progress (An Bord Altranais 2003).

3.12 Supporting Clinical Practice

Prior to commencing the programme the nurse must have a designated clinical supervisor, who is a registered medical practitioner for the duration of the programme. The role of the clinical supervisor has been identified as one of the most important contributions in preparing the nurse for his/her extended role in prescribing medical ionising radiation (X-Ray). The clinical supervisor must agree to observe, supervise, provide guidance / feedback, document and undertake the two assessments to deem the nurse competent or not competent to prescribe medical ionising radiation (X-Ray). Support will also be provided by the programme coordinator, programme teachers and other appropriate practitioners in the multidisciplinary team who have the required knowledge, skills, values and expertise to enable the nurse to develop the competence in this expanded area of practice.

3.12.1 Responsibilities of the Clinical Supervisor

It is the responsibility of the supervisor to:

- collaborate with the programme coordinator to ensure adequate support for the nurse in the clinical practicum and sign the Nurse Prescribing Ionising Radiation (X-Ray) Declaration Form to confirm his/her commitment to the process;
- provide support, teaching and learning opportunities in the clinical practicum;
- facilitate learning by encouraging critical thinking and reflection;
- provide dedicated time and opportunities for the nurse to conduct a full episode of care to include prescribing medical ionising radiation (X-Ray) under supervision;
- ensure the nurse integrates theory with practice;
- verify and document all supervised practice for the duration of the programme (Appendix 9);
- meet formally to review progress;

- formally assess the nurse's competence in the clinical practicum using the Assessment Tool for Assessing Clinical Competence (Appendix 10) on episode five and episode 10; and
- document that the nurse is competent or not competent.

The Clinical Supervisor has no further role following the period of nurse education.

3.12.2 Support for the Clinical Supervisor

Support for the clinical supervisor will be provided by the programme coordinator who will:

- provide an introductory information session for clinical supervisors for each programme;
- undertake site visits to the clinical areas; and
- provide ongoing support as required.

3.13 Assessment of Learning

Various methods of assessment will be employed in this programme to support learning as a continuous and reflective process, the integration of theory and practice, and the achievement of clinical competence in prescribing medical ionising radiation (X-Ray).

3.13.1 Theoretical Assessment

The theoretical assessment of the programme will constitute 50% of the total marks awarded during the programme. It will comprise multiple choice questions and reflection on practice assignment.

The nurse must undertake a written assignment based on reflection on his/her practice of prescribing medical ionising radiation (X-Ray) (Appendix 11). This will be undertaken from a supervised episode near the final episode of prescribing medical ionising radiation (X-Ray) (between episode eight and 10). This assignment must be passed in its own rights in order for the nurse to achieve successful completion of the programme.

3.13.2 Clinical Practice Assessment

The nurse will undertake no less than 10 supervised episodes of prescribing ionising radiation (X-Ray) and be deemed competent or not on completion of the clinical component of the programme. Each of these episodes must be countersigned by the clinical supervisor in the *Record of Nurse's Supervised Episodes of Prescribing Ionising Radiation (X-Ray)* (Appendix 9). In addition two assessments will be undertaken by the clinical supervisor at episode five and episode 10 using the *Assessment Tool for Assessing Clinical Competence* (Appendix 10). Evidence to support attainment of competence should be submitted within three months and must be submitted within six months from the commencement of the programme. This assessment must be passed in its own rights in order for the nurse to achieve successful completion of the programme.

3.13.3 External Examiner

An External Examiner will be appointed following consultation with key stakeholders and an analysis of developments in the area of nurse X-Ray prescribing in Northern Ireland and the United Kingdom. An Bord Altranais *Requirements and Standards for Post-Registration and Continuing Competence Nursing and Midwifery Education Programmes – Incorporating the National Framework of Qualifications* (ABA 2007) stipulate that the appointee will be a Registered Nurse with professional qualifications/experience appropriate to the education programme on nurses for authority to prescribe ionising radiation (X-Ray). He/she will hold an academic and a teaching qualification with at least three years' full-time teaching experience in the development, management, delivery and evaluation of post-registration programmes / units of learning and, if at all possible, in the field of nurses prescribing ionising radiation (X-Ray). Experience

in examining and assessing post-registration students will be a specification of appointment.
The External Examiner will play a critical role and provide an independent view in maintaining the standard and quality of the education process, product and structure. He/she will ensure that individual students are treated fairly and equitably and will monitor the assessment strategies for the theoretical and clinical components of the education programme to safeguard reliability and equity.

All draft examination papers, marking schemes and data in relation to the assessment of clinical competence will be sent to the External Examiner for his/her comments and approval. The extern examiner will be given a representative sample of examination and assessment material presented by nurses (approximately 5%), including borderline cases.

The External Examiner will be obliged to attend at least one meeting per year of the *National Education Programme Board* of which he/she will be a member. He/she will be a participant in decision-making concerning the programme, have the right to make such suggestions, criticisms, deletions and amendments as he/she deems appropriate. The External Examiner's annual report will be used to continuously modify and develop the programme to enhance the development, maintenance and delivery of an evidence-based quality educational experience.

A summary analysis of the External Examiner's report, together with the evaluations from the implementation groups (local), will together contribute to the annual report for submission to An Bord Altranais by the *National Education Programme Board*.

3.14 Completion of Programme

Upon successful completion of the programme *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray)*, the nurse will be provided with a certificate from the education providers indicating successful completion of all units of learning and successful demonstration of competency. The nurse presents the certificate to the Director of Nursing. As per local arrangements, the Director of Nursing notifies the Head of Radiology (Consultant Radiologist). The nurse is then set up on the radiology system, as appropriate.

It is understood while the nurse operating within his/her scope of practice to prescribe medical ionising radiation (X-Ray), it is the patients' named Consultant who bears ultimate responsibility for patient care in a particular area of the hospital where the nurse functions as part of the multidisciplinary team. This is the Consultant who assumes responsibility for treatment actions that may be necessary as a result of findings on radiographic studies that the nurse may have requested. The request details for a radiographic study written by the nurse must also contain the name of the Consultant.

3.15 Summary

The *Nurse Education for Authority to Prescribe Ionising Radiation (X-Ray) programme* is a Level 8 equivalent programme currently in receipt of Category One An Bord Altranais approval. The programme includes a minimum of 30 theoretical hours and a minimum of 10 supervised episodes of nurse prescribing of medical ionising radiation (X-Ray) as part of the clinical components. Assessment of learning (theory and practice) occurs using multiple choice questions, a practice project and assessment of clinical practice. The nurse receives a certificate of completion upon successful completion of the programme. The nurse presents the certificate to the Director of Nursing to gain entry to the necessary database and authority to prescribe medical ionising radiation (X-Ray) at a local level.

CHAPTER FOUR:

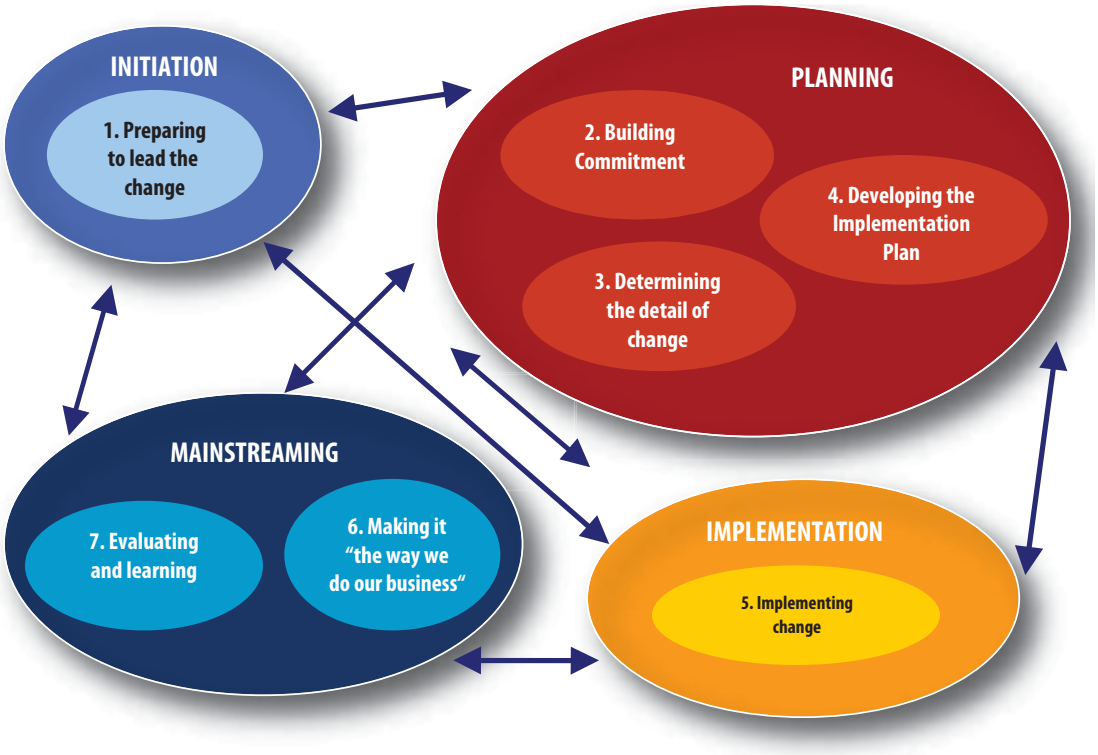
Implementation Framework for Introducing Nurse Prescribing of Medical Ionising Radiation (X-Ray)

4.0 Introduction

This chapter presents a step-by-step guide for health service providers introducing nurse prescribing of medical ionising radiation (X-Ray) in their service/organisation. This implementation framework maps the steps and associated actions to establish nurse prescribing of medical ionising radiation (X-Ray). Checklists and links to relevant documents or websites are provided.

The implementation framework is underpinned by the Health Service Executive model for change as identified in *Improving Our Services: a Users' Guide to Managing Change in the Health Service Executive* (HSE 2008a). This user guide describes the journey of change or transformation that enables people to move from a current situation to a desired future (HSE 2008a). The steps of this recommended change model (Figure 4.1) are used to structure this implementation framework for the introduction of nurse prescribing of medical ionising radiation (X-Ray) at service level.

Figure 4.1 HSE Change Model (HSE 2008a p16)



4.1 Initiating Nurse Prescribing of Medical Ionising Radiation (X-Ray)

4.1.1 Step 1: Preparing to Lead the Change

At this stage, the service/organisation with an interest in introducing nurse prescribing of medical ionising radiation (X-Ray) must take the time to prepare the ground for this new change in nursing practice. Often the person to lead this change is the Director of Nursing or a Nurse Manager but may be any member of the multidisciplinary team aware of the initiative and its benefits. The purpose of this initiation stage of the project is to place nurse prescribing of medical ionising radiation (X-Ray) on the organisations' radar, and indeed the agenda of those who are needed to support its introduction and implementation. As leaders of the change, it is worthwhile thinking carefully about why nurse prescribing of medical ionising radiation (X-Ray) is needed. Outline the initial objectives in terms of patient care. Gather the relevant documentation on nurse prescribing of medical ionising radiation (X-Ray) and distribute them amongst nursing, medical, radiology and general and nurse management teams. Initiate local discussions with key influences and stakeholders.

Table 4.1: Initiation: Step 1 Prepare to Lead the Change

Step 1 PREPARE TO LEAD THE CHANGE
Source and Distribute Key Documents • The Requirements and Standards for Nurse Education Programme for Authority to Prescribe Ionising Radiation (X-Ray) An Bord Atlranais **http://www.nursingboard.ie** • Office of the Nursing Services Director (2009) Guiding Framework to the Implementation of Nurse Prescribing of Medical Ionising Radiation (X-Ray) **http://www.hse.ie** • Legislation (S.I. No.303/2007 and S.I. No. 478/2002 **http://www.irishstatutebook.ie** • Faculty of Radiologists **www.facultyofradiologists.ie**
Initiate Local Discussions with Key Influencers and Stakeholders • Local Radiology Department – Consultant Radiologist and Radiographer Manger • Relevant Medical Consultants/Clinical Directorate Leads • Relevant nursing teams and nurse practice development • Centre of Nurse Education/Nursing and Midwifery Planning and Development • Other Departments e.g. Risk Management • Service User

It is also recommended that the patient or service user pathway (see Figure 4.3) is examined and consideration given to where nurse prescribing of medical ionising radiation (X-Ray) can improve current practice in relation to this patient care pathway for clinical areas within the organisation.

It is important to consider the benefits of nurse prescribing of medical ionising radiation (X-Ray) to the clinical settings and identify the clinical areas where practice is open to change and the benefits will be quickly seen. Initiate local discussions with key influencers and stakeholders of nurse prescribing of medical ionising radiation (X-Ray) (Table 4.1).

Assess the nursing staff and other key stakeholder's readiness and capacity for change. Do not ignore any resistance to change. It is best to prepare for resistance and discuss and negotiate with others as to the concerns they may have. Engaging with the key stakeholders and communicating and communicating again will help a service succeed in implementing change.

In summary the relevant leader(s), Director of Nursing or nurse manager can prepare to lead the introduction of nurse prescribing of medical ionising radiation (X-Ray) by:

- sourcing key documents (see suggestions in Table 4.1);
- disseminating the information widely throughout the health care setting;
- enhancing awareness of nurse prescribing of medical ionising radiation (X-Ray) across the health care setting;
- liaising with colleagues within other health care settings where nurse prescribing of medical ionising radiation (X-Ray) has already been introduced;
- identifying the leverage points and opportunities for change;
- attending to organisational politics; and
- identifying champions for the development.

Spending time on this initiation stage will increase the change of a service/organisation achieving successful change. However planning (Table 4.2) for the change is crucial.

4.2 Planning the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray)

The planning stage of a change project (Table 4.2) aims to support the service to build a shared vision (building commitment); identify and determine the resource requirements for the change(determine the detail of change); and access the resources (local implementation plan) for the change.

4.2.1 Step 2: Building Commitment

This step concentrates on obtaining a mandate for the introduction of nurse prescribing of medical ionising radiation (X-Ray) and establishing the Local Implementation Group. Nurse prescribing of medical ionising radiation (X-Ray) requires multi-disciplinary support and input. At this step, the leader(s) of change focus on the service's readiness and capacity to change and any resistance to change should be explored. To obtain the mandate to introduce the initiative, a shared vision is required and communication is crucial. The project governance vision (Chapter Two, section 2.1) may be of use here. Engaging with staff is crucial to create a shared vision that staff are enthusiastic about. The vision must be communicated to a wide range of key stakeholders (Table 4.1).

At the end of this stage, the Local Implementation Groups (LIG) are established. See Chapter Two, section 2.6 for more information on LIGs).

Once established, the LIG, in consultation with others, can proceed to determine the detail of change and establish the requirements of the service(s) to proceed with nurse prescribing of medical ionising radiation (X-Ray).

Table 4.2 Planning for Nurse Prescribing of Medical Ionising Radiation (X-Ray)

PLANNING STAGE
Step 2 Building Commitment • Undertake an analysis of service needs • Reflective diary/gap analysis/process maps • Review key statistics/reports/service plan • Assess readiness and capacity for prescribing of medical ionising radiation • Obtain mandate to proceed and establish Local Implementation Group (LIG)
Step 3 Determining the Detail of Change • Identify target clinical areas and number of potential nurse prescribers of ionising radiation (X-Ray) • Identify Clinical Supervisors • Assess initial resource requirements • Identify deliverable for patient/service user care • Obtain mandate of Senior Management Team and Local Radiation Safety Committee (via LIG) to proceed
Step 4 Developing a Local Implementation Plan • LIG to agree and define health service provider requirements • LIG to establish local governance mechanisms • Confirm roles and responsibilities, especially Clinical Supervisors roles • Identify and agree nurses to undertake course • The Nurse with the support of Director of Nursing applies to the Education Provider to commence the programme (using application form, selection criteria and nurse prescribing ionising radiation (X-Ray) declaration form)

Communication is crucial and Table 4.3 provides guidance on communication from the *Improving our Services - A User's Guide to Managing Change Model for Change in the Health Service Executive* (HSE 2008a).

Table 4.3 Guidance on Communication HSE change Model (HSE 2008a)

Who?	What?	How?	When?	Outcome?
Who are we communicating with? *(Note: the identification of the different individuals and groups you are communicating with, i.e. your target audience will influence your decisions regarding each of the questions in the columns to the right.)*	What does your audience already know? What is the purpose of the communication? What is the content of the message? What message do you want to give? What do you want your audience to do differently when you have communicated with them? What other issues is your audience already dealing with?	What is the most appropriate method or means of communication? How will possible difficulties/obstacles to communication be addressed? How will you tailor your message to meet the needs of your particular audiences? Who is best placed to deliver the message? How can these individuals be supported in their role?	When is the best time to share this information? How frequently will information be shared? Is there a need to specify a deadline in terms of response?	How will feedback about the change be received and acted upon? How will the impact and effectiveness of the communication processes be assessed and acted upon?

Source: Improving our Services - A User's Guide to Managing Change Model for Change in the Health Service Executive (HSE 2008a)

4.2.2 Step 3: Determining the Detail of the Change

This step focuses on comparing the "now" to the desired future state, or assessing the current situation against the future vision. An obvious gap is having competent nurses to prescribe medical ionising radiation (X-Ray) and the requirement for nurses to attend the nurse education programme. Detailing the change will identify resource requirements and the organisation/services/staff readiness to change. Elements the Local Implementation Group are concerned with at this stage include:

- identifying suitable clinical areas for the introduction of nurse prescribing of medical ionising radiation (X-Ray) in the organisation/health service;
- identifying the availability of appropriate clinical supervisors for the clinical instruction within the programme;
- adapting and implementing national policies, protocols, guidelines to support the practice change at local level;
- examining if the nurses have adequate access to a computer and Internet at work to complete the programme and later to enter onto the minimum dataset;
- assessing if the Directors of Nursing have adequate resources to set up nurses on the database of nurses prescribing ionising radiation (X-Ray) in each hospital;
- assessing if the group has or requires resources to monitor impact of the change in practice on radiology services; and
- examining if there are clinical risk management and audit support structures already in place that support the implementation of this new practice.

Some of the key questions that might be asked during a discussion in relation to patient or service user care and the potential for nurse prescribing of medical ionising radiation (X-Ray) are set out on Table 4.4 below.

Table 4.4 Prompts/questions for the Service Needs Analysis

- Do patients/service users have to wait for an X-Ray referral/prescription to be written?
- Are medical doctors readily available to the service out-of-hours?
- Is there a delay in initiating inpatient treatment, as doctors are busy in operating department or clinics?
- Do patients/service users have to return to busy clinics for repeat X-Ray prescriptions?
- Could the number of professionals a patient/service user interact with be reduced if nurses or midwives could prescribe X-Rays?
- Could patients/service users receive a necessary X-Ray sooner if nurses in our team/relevant clinical area could prescribe?
- Would patients/service users be supportive of nurse X-Ray prescribing?
- Would nurse X-Ray prescribing be safe in this clinical setting?

Source: Adapted from Guiding Framework for the Implementation of Nurse and Midwife Prescribing in Ireland, Office of the Nursing Services Director, HR Directorate, Health Service Executive (ONSD, 2008b)

It is worth noting here that the Clinical Indemnity Scheme (CIS), run by the State Claims Agency provides clinical indemnity for nurse prescribing of medical ionising radiation (X-Ray) on the basis of enterprise liability. Therefore, the relevant nurses and clinical supervisors in the enterprises/health service providers covered by the CIS are indemnified for clinical negligence in relation to nurse prescribing of medical ionising radiation (X-Ray).

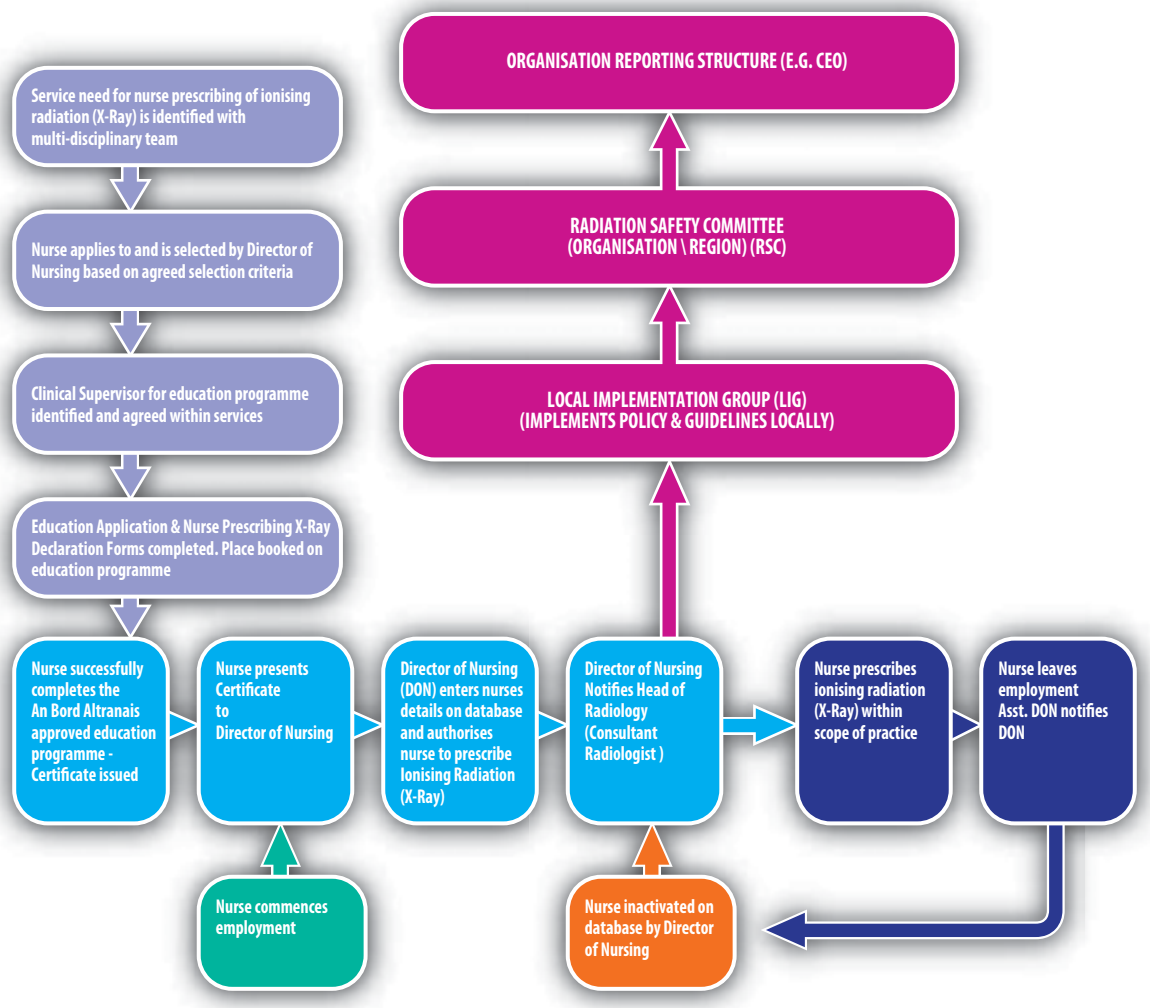
4.2.3 Step 4: Developing the Local Implementation Plan

Depending on resource requirement and local policy regarding introducing a new change, some services may need to consider or make a business case to support the introduction of nurse prescribing of medical ionising radiation (X-Ray). The HSE business case template is available with guidance on its completion. Business case templates are available from local service managers or business managers. If the health service provider has its own template, this should be used. There is no single 'right' format when writing a business plan. There is also a useful guide published by the National Council for the Professional Development of Nursing and Midwifery (visit **www.ncnm.ie**).The content should be credible, accurate, logical and succinct.

It is imperative that the business case defines the target number of nurses prescribing medical ionising radiation (X-Ray) required to commence the service; and the numbers required in the longer term to build the capacity for effective and efficient service delivery in a sustainable manner. The business case should conclude with the identified deliverables for the patient or service user. It is absolutely imperative to obtain support and a clear mandate from the senior management team for the introduction of nurse prescribing of medical ionising radiation (X-Ray) in advance of identifying staff to attend the education programme. Securing a mandate gives authority and credibility to the process and ensures alignment and buy-in from key stakeholders in the system. The business case may be the means to formally secure this mandate in many organisations/services.

When the Local Implementation Group has established a mandate from senior management to proceed (and secured resources as required), the local governance mechanisms are established. Figure 4.2 outlines the internal governance mechanism as developed by the *National Advisory Committee* for the Local Implementation Groups. Developing and putting in place a robust governance mechanism is an essential step in the introduction of nurse prescribing of medical ionising radiation (X-Ray). Corporate and clinical governance should both be addressed with clear identification of responsibility from clinical practice level to the CEO/General Manager/Board of Management. Clinical governance focuses on the safe and effective delivery of patient or service user care. To achieve this, clinical governance defines the values, culture, behaviours, processes, and procedures that are essential for the provision of safe, sustainable quality service. Governance will primarily be addressed by adhering to the requirements regarding the Local Implementation Group, nurse selection criteria and the nurse education programme.

Figure 4.2 Internal Governance Framework for Nurse Prescribing of Medical Ionising Radiation (X-Ray)



4.2.4 Roles and Responsibilities of Other Key Stakeholders

Education Providers

The Centres of Nurse Education (Health Service Executive and voluntary services) in partnership with the Faculty of Radiology at RCSI will be the primary education providers of the *Nurse Education Programme for Authority to Prescribe Ionising Radiation (X-Ray)*.

A National Programme Board with key stakeholder representation from the service and the education providers will be established to oversee the planning, delivery and evaluation of the programme. Feedback from all evaluations will be submitted to the National Programme Board at specified intervals and will constitute components of the annual report for An Bord Altranais.

Clinical Supervisors

It is the responsibility of the clinical supervisor to:

- provide support, teaching and learning opportunities in the clinical practicum;
- facilitate learning by encouraging critical thinking and reflection;
- provide dedicated time and opportunities for the nurse to conduct a full episode of care to include prescribing medical ionising radiation (X-Ray);
- ensure the nurse integrates theory with practice;
- verify and document all supervised practice for the duration of the programme;
- meet formally to review progress;
- formally assess the nurse's competence in the clinical practicum using the Assessment Tool for Assessing Clinical Competence on episode five and episode 10 (Appendix 9);
- document that the nurse is competent or not competent; and
- collaborate with the programme co-ordinator to ensure adequate support for the nurse in the clinical practicum and sign the *Nurse Prescribing Ionising Radiation (X-Ray) Declaration Form* to confirm his/her commitment to the process.

The clinical supervisor has no further role following completion of the nurse education programme

Director of Nursing

The Director of Nursing or his/her designated officer will:

- select the appropriate nurses, from the identified clinical areas agreed by the Local Implementation Group, for the education programme;
- support the nurse attending the programme through staff release to attend the programme and by ensuring access to a computer and Internet; and
- upon receipt of notification that the nurse has successfully completed the education programme, the Director of Nursing or designate will enter the nurse's name on the database of nurses prescribing medical ionising radiation (X-Ray) and inform the Head of Radiology (Consultant Radiologist) of the nurse's authority to prescribe.

Nurses prescribers of medical ionising radiation (X-Ray)

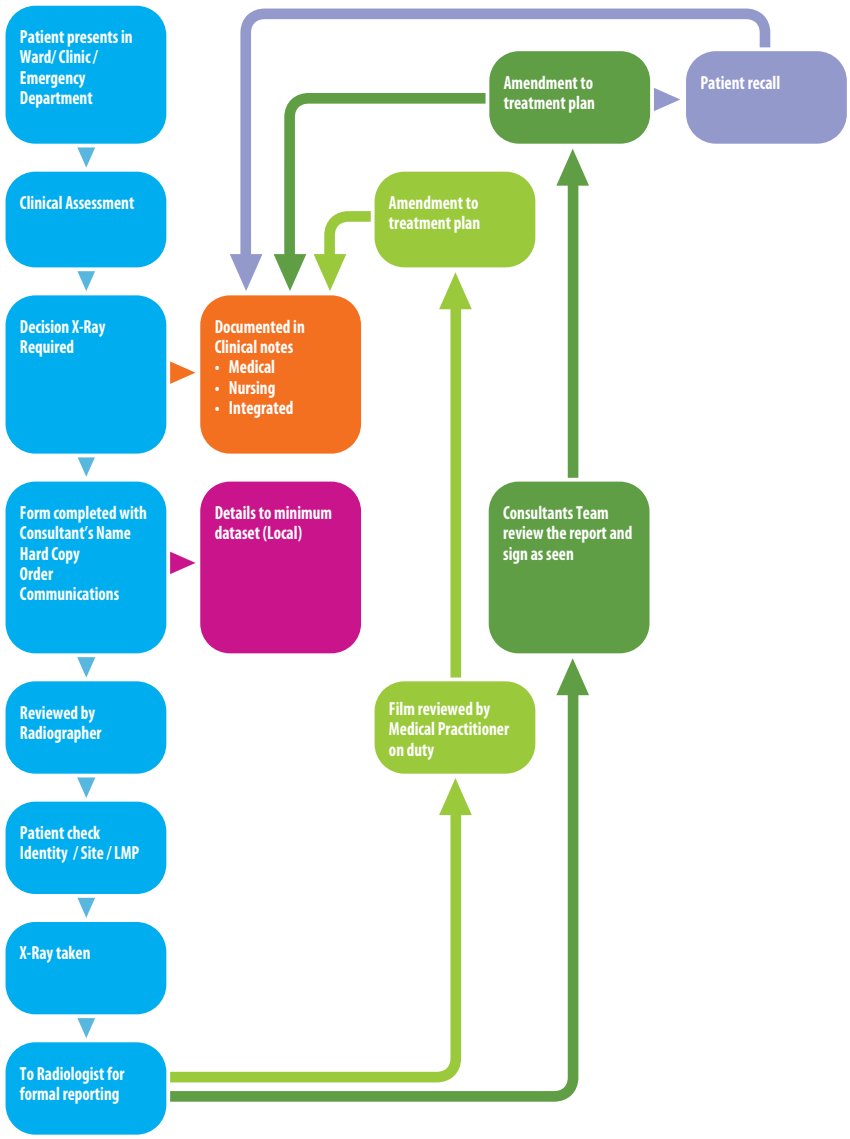
Nurse prescribers of medical ionising radiation (X-Ray) must:

- ensure they have successfully completed the education programme approved by An Bord Altranais;

- ensure they are entered on the database of registered nurses with authority to prescribe ionising radiation (X-Ray);
- prescribe within his/her scope of practice and within the parameters of the local guideline/ policy for nurse prescribing of medical ionising radiation (X-Ray) (see Appendix 3). (Such guidelines will be developed in line with best clinical practice in relation to exposure to medical ionising exposure and the An Bord Altranais requirements and standards. The guidelines should be agreed with the relevant members of the multidisciplinary team locally);
- be familiar and comply with legislation, regulation and HSE/local policies for medical ionising radiation;
- enter ionising radiation (X-Ray) prescriptions on the nurse prescribing ionising radiation minimum dataset;
- engage in audit of their prescribing practice as required by their employer;
- participate in the evaluation of nurse prescribing of ionising radiation (X-Ray); and
- undertake continuing professional development on an ongoing basis.

When the Local Implementation Group has agreed the internal governance mechanism (Figure 4.2), the implementation of local policies, procedures and protocols will occur. The patient pathway for a radiology intervention (Figure 4.3) is useful here to guide the procedure of nurse prescribing of medical ionising radiation (X-Ray).

Figure 4.3 Nurse Prescribing Ionising Radiation - Patient Pathway



Clinical referral pathways must reflect best known practice and be agreed by the multidisciplinary team. A national policy for local adaptation is provided in Appendix 3.

Clinical Consultant

The registered nurse with authority to prescribe ionising radiation, practising within their scope of practice, can make an independent decision to prescribe medical ionising radiation (X-Rays) and is professionally accountable for his or her decision. It is understood while the nurse operating within his/her scope of practice can prescribe medical ionising radiation (X-Ray), it is the patients named Consultant who bears ultimate responsibility for patient care. The Consultant in charge of the patient assumes responsibility for treatment actions that may be necessary as a result of findings from radiographic studies that the nurse may have requested. The request details for a radiographic study written by the nurse must also contain the name of the Consultant.

4.3 Implementing Nurse Prescribing of Medical Ionising Radiation (X-Ray)

At the same time as the services are preparing for introduction of nurse prescribing of medical ionising radiation (X-Ray), the nurse in consultation with the Director of Nursing and the Clinical Supervisor applies for a place on the Education Programme. Application forms and the Nurse Prescribing of Ionising Radiation (X-Ray) Declaration Forms are available from the education providers. These are outlined in Appendix 6 and Appendix 7 respectively.

4.3.1 Step 5: Implementing Change

In order to prescribe ionising radiation (X-Ray) the nurse must successfully complete the *Nurse Education Programme for Authority to Prescribing Ionising Radiation (X-Ray)* and ensure his/her name is entered on the database of nurses prescribing medical ionising radiation (X-Ray). This is an internet-based database set up nationally by the *National Advisory Committee*. New nurses with authority to prescribe and new users will submit their details through the Director of Nursing, who has rights to set up the nurse on the database. The new nurse prescriber will then email the HSE IT system administrator who will provide the nurse with a password and username. Other changes are included in Table 4.5.

Table 4.5: STEP 5 IMPLEMENTING CHANGE

Nursing Changes	Local Implementation Group
• Nurse successfully completes education programme over a three-month period and receives certificate of completion.	• Ensures Local Policy Implementation
• Nurse presents certificate of completion demonstrating that the education programme has been completed and competence has been attained	• Establishes access to database with local IT administrator
• Director of Nursing enters nurse's name on database and informs Head of Radiology Consultant Radiologist) of nurse's authority to prescribe ionising radiation (X-Ray)	• Monitors impact on services
• Nurse prescribes within his/her scope of the practice and in line with policy/guidelines	• Reports quarterly to the Radiation Safety Committee
• Nurse enters details of prescriptions on web-based monitoring system on an ongoing basis using the minimum dataset	

4.4 Mainstreaming Nurse Prescribing of Medical Ionising Radiation (X-Ray)

It is imperative that the introduction of nurse prescribing of medical ionising radiation (X-Ray) is implemented in a sustainable way. The mainstreaming stage focuses attention on the successes of nurse prescribing of medical ionising radiation (X-Ray) and how the new ways of working can be integrated and sustained.

4.4.1 Step 6: Making it "the way we do our business"

To sustain and spread nurse prescribing of medical ionising radiation (X-Ray), it is important the leaders of the initiative:

- communicate organisation-wide about the progress of the initiative;
- monitor, audit and evaluate nurse prescribing of ionising radiation (X-Ray);
- address areas of risk that may emerge; and
- build capacity for nurse prescribing of ionising radiation (X-Ray).

A communication plan can assist services in terms of flow of information, timeliness, accessibility, and the methods to be used to disseminate information about the commencement and implementation of nurse prescribing of medical ionising radiation (X-Ray) within the health care setting. It is most important to show that the development is underway. The communication plan should also show openness to feedback from staff and patient/service users and describe how feedback will be received and acted upon. Some suggested mechanisms for achieving this are set out in Table 4.6.

Table 4.6 Suggested Activities for Communication

- Announce the introduction of nurse prescribing of medical ionising radiation (X-Ray) at relevant department meetings;
- Arrange an health care setting celebration for the introduction of nurse prescribing of medical ionising radiation (X-Ray);
- Issue letters of acknowledgement, thanks and congratulations to all involved in introduction of the change;
- Send memos with details of new nurses prescribing medical ionising radiation (X-Ray) to relevant members of staff;
- Consider communication requirements outside the health service provider - for example General Practitioners;
- Prepare a feature article on the introduction of nurse prescribing of medical ionising radiation (X-Ray) for the health service provider's newsletter;
- Report the outcome of the introduction of nurse prescribing of medical ionising radiation (X-Ray) in the health service provider's and/or the department of nursing annual report;
- Keep the senior management teams updated with briefing reports;
- Include a section on the health service provider's website on nurse prescribing of medical ionising radiation (X-Ray);
- Prepare a patient/service user information leaflet on nurse prescribing of ionising radiation (X-Ray) using the "frequently asked questions" approach;
- Communicate about the governance structure and role of the LIG and its role is overseeing the implementation including monitoring and evaluation.

Source: Adapted from Guiding Framework for the Implementation of Nurse and Midwife Prescribing in Ireland, Office of the Nursing Services Director, HR Directorate, Health Service Executive (ONSD 2008b)

4.4.2 Step 7: Evaluating and Learning

Each health care provider introducing this initiative makes a commitment to monitor, audit and evaluate the practice of a nurse prescribing ionising radiation (X-Ray) when submitting the nurse's application to the education programme.

A national web-based system to collect the nurse prescribing of medical ionising radiation (X-Ray) information in a user-friendly way was also developed for the use of health service providers. The *National Nurse Prescribing of Medical Ionising Radiation (X-Ray) Minimum Dataset* will be accessible via an individual protected internet site. Details of the system are provided in Chapter Five of this document.

There is also a requirement for all health care settings introducing nurse prescribing of medical ionising radiation (X-Ray) to have risk management structures in place. Risk management is a framework for safe practice and is achieved through an open and "blame-free" culture that supports staff in reporting mistakes and adverse or untoward incidents. It provides follow up with prompt investigation and also allows for learning from mistakes and the changing of behaviour and practices as a result of incidents, near misses and adverse events (Sale 2005). It is advised that an audit of a nurse's practice of prescribing medical ionising radiation (X-Ray) be undertaken quarterly for the first year and biannually thereafter. Chapter Five of the document provides general advice to health service providers on the approach to the audit of nurse prescribing of medical ionising radiation (X-Ray). A sample audit tool is provided in Appendix 12.

Once nurse prescribing ionising radiation (X-Ray) has been implemented locally, the health service provider should avail of the opportunity to evaluate and learn from the way the initiative was designed and implemented. This will ensure the service will continuously learn and improve in the future, and discontinue any activity that did not or will not prove successful. Key questions that might be reflected on at this stage are set out on Table 4.7.

Table 4.7 Monitor, Audit and Evaluate Nurse Prescribing of Ionising Radiation (X-Ray)

Key Questions:

- What was successful about implementing nurse prescribing of medical ionising radiation (X-Ray) in this health care setting?
- What could we improve on for the next time?
- How can we ensure this happens?
- What would we do differently?
- Is each stakeholder satisfied with the way we implemented nurse prescribing of medical ionising radiation (X-Ray)?
- How do we know?
- What are the outcomes of nurse prescribing of medical ionising radiation (X-Ray)?
- Are we monitoring and measuring these outcomes effectively?
- What action do we need to take now to improve on implementing nurse prescribing of medical ionising radiation (X-Ray) to make it more effective the next time for new candidate(s)?
- Are the support structures in place for nurse prescribing of medical ionising radiation (X-Ray) effective? How do we know?
- How will we communicate this change on an ongoing basis throughout the health care setting?
- Have we allocated responsibility for evaluating and monitoring nurse prescribing of medical ionising radiation (X-Ray)?

Source: Adapted from Guiding Framework for the Implementation of Nurse and Midwife Prescribing in Ireland Office of the Nursing Services Director, HR Directorate, Health Service Executive (2008b)

At this stage a critical mass will understand how the new way of working with nurses prescribing of medical ionising radiation (X-Ray) operates and how to support best performance. The ongoing requirement for the LIG established for the introduction of nurse prescribing should be reviewed. The support structures (for example LIG) that were found to be useful should be integrated into the health care setting. Consideration should be given to the approach to be adopted to continue to build the capacity within the health care setting for nurse prescribing of medical ionising radiation (X-Ray). Some fundamental questions include:

- how will cohorts of nurses with authority to prescribe Ionising Radiation (X-Ray) be developed?
- will there be a requirement for greater numbers to ensure seven day/ 24-hour availability of the service?
- how will the continuing professional development of existing nurse prescribing of medical ionising radiation (X-Ray) be supported?

In addition nurses with authority to prescribe ionising radiation (X-Ray) have a number of ongoing responsibilities that are included as part of their practice. They must maintain their competence to ensure continued safe and effective practice within their scope of practice.

4.5 Summary

The use of the implementation framework for the introduction of nurse prescribing of medical ionising radiation (X-Ray) in individual sites contributes to the standardisation of this significant service development nationally. Implementation in a safe and effective manner will have significant implications on enhancing patient or service user care. Adherence to the project management lifecycle of initiating, planning, implementation and evaluation is recommended. Consideration of the nurse criteria for entry to the education programme, the employer's selection of clinical areas and nurses, and the required internal governance structures locally must be considered and addressed locally for robust implementation to occur. Leadership and communication are required and the Local Implementation Group play key roles in establishing nurse prescribing of medical ionising radiation (X-Ray). Evaluation and learning to improve for future programmes and expanding nurse prescribing of medical ionising radiation (X-Ray) is also necessary.

CHAPTER FIVE:

Monitoring Nurse Prescribing of Medical Ionising Radiation (X-Ray)

5.0 Introduction

This chapter outlines the minimum dataset developed to support the monitoring of nurse prescribing of medical ionising radiation (X-Ray). Specifically it describes the purpose and content of the dataset, followed by a user's guide to how this monitoring system will operate. The development of this monitoring system was informed by the *National Nurse and Midwife Prescribing Minimum Dataset and the Nurse and Midwife Prescribing Data Collection System* designed to monitor the introduction of nurse and midwife medicinal product prescribing and in use throughout the HSE since February 2008.

It is imperative from a professional accountability perspective that nurses undertaking an expanded role in a critical area such as prescribing of medical ionising radiation (X-Ray) monitor this change in practice. Good corporate governance also requires the services in which they are employed to devise systems to monitor this activity. The *National Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset* has been developed by the *Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation* to support such monitoring.

5.1 National Nurse Prescribing Ionising Radiation Minimum Dataset

Members of the *Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (National Advisory Committee)* were convened to examine the potential for a national nurse prescribing ionising radiation (X-Ray) minimum dataset. Given the various radiology information systems in place within organisations and their disparate functionality and variation in the data captured, it was decided to create the *Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset*. The dataset agreed allows collection and collation of essential information required for monitoring, in a standardised format, at local, HSE area and national levels.

The purpose of creating a national minimum dataset is to establish a standardised approach to monitoring the activity of nurses with the authority to prescribe ionising radiation (X-Ray) nationally, area wide and locally. The minimum dataset will also facilitate individual prescribers to report on the number of medical ionising radiation (X-Ray) prescriptions they have written, and the scope of their prescribing practice within their organisation. The dataset allows generation of reports using each data item as the filter/main descriptor for the report. Each item of the dataset was checked against the following tests:

- specific and complete;
- unambiguous and clear;
- understandable and objective;
- realistic and feasible to collect;
- data quality and comparability;
- user protection;
- data protection; and
- collectable at point of care.

5.2 Minimum Dataset Definitions

The dataset has six data fields, considered as essential information required for monitoring at local, HSE area and national levels. The selected items in the data fields are defined in Table 5.1.

Table 5.1: Definitions of Data Fields within the National Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset

Data Field	Definition
Site	Name (title) of employer (specific organisation /service) where the nurse X-Ray prescriber is employed.
Prescriber's name	Name on An Bord Altranais (ABA) Register
An Bord Altranais Personal Identification Number	8 number numerical strand
Clinical Area	Clinical area of authorised prescriber's practice within the place of employment e.g. Emergency Department, Occupational Health, Diabetic Services
Date	Date on which prescription was written, expressed in European format e.g. DD/MMM/YYYY (three-letter month).
Time	24-hour clock
X-Ray prescribed	X-Ray title e.g. Chest X-Ray

Source: Adapted from Guiding Framework for the Implementation of Nurse and Midwife Prescribing, 2008b

5.3 National Nurse Prescribing Ionising Radiation Data Collection System

The work of the *National Advisory Committee for the Implementation of Nurse Prescribing Ionising Radiation* was informed by the National Integrated Medical Imaging System (NIMIS) project. During the course of the NIMIS project it was identified that radiology information systems are not standardised nationally and that the functionality and the potential to generate reports varies greatly. For this reason it was decided to develop a web-based database to facilitate the collection of the minimum data required.

The purpose of this system is to provide each individual nurse prescribing medical ionising radiation (X-Ray) with a simple user-friendly system with which to record the minimum dataset. The system will also support collation of the information and the generation of reports on the minimum dataset locally, area wide and nationally. The system facilitates ease of access and supports flexibility in relation to the recording of prescription information, and minimises the amount of key strokes required by the nurse prescriber to enter the required data. The system has been developed so that it:

- is web-based to ensure optimum accessibility and security;
- is easily accessed and user-friendly;
- supports standardised data collection and reporting;
- requires minimal training;
- allows immediate generation of four levels of bespoke reports; and
- may be modified based on user feedback.
- a navigation toolbar appears on all screens to aid navigation.

5.4 Accessing the System

The web-based system can be accessed by nurses from their place of work. Login to the system is restricted to nurses prescribing ionising radiation and authorised users (who have been provided with a username and password). Features of the systems include:

- role-based access to the system with different permissions and access to the different reports generated (local, area, national);
- new nurses with authority to prescribe and new users will submit their details through their Director of Nursing who will have rights to establish the nurse on the database. The new nurse prescriber will then email the HSE IT system administrator who will provide the nurse with a password and username.

Within each healthcare organisation people who may access the system include:

- individual nurses prescribing ionising radiation;
- Director of Nursing or delegate;
- Consultant Radiologist;
- Radiation Services Manager; and
- Radiographers.

Within the Office of the Nursing Services Director people who can access the system include the HSE Area Director of Nursing and Midwifery Planning and Development, and the Application Administrator.

User roles determine the level of access and permissions granted to individual users for reasons of security and data protection. Other staff may be given access and permissions as deemed appropriate. Directors of Nursing will confirm the credentials of nurses with authority to prescribe ionising radiation (X-Ray) before approving their entry onto the data collection system.

5.5 Recording Data

The recording of data is based on point and click and drop-down menus; for example, X-Ray types are selected from the scope of prescribing practice. Where possible, data entry should be carried out on the date of prescription. This prevents a backlog of data for input and aids timely and accurate reports. The system contains a screen with definitions of the standard dataset.

5.6 Security

The system has encryption security and ensures security, privacy and confidentiality are maintained and is in compliance with the requirements of the *Data Protection Acts, 1988* and *2003*. All information is entered retrospectively and cannot be linked in any way to individual patients or service users. Patient or clinical information is not recorded on the system.

5.7 Organisational Support for the System in Use

Each health care organisation agrees to monitor and evaluate the introduction of nurses prescribing medical ionising radiation (X-Ray) when completing the Ionising Radiation (X-Ray) Declaration Form (Appendix 7). *The National Nurse Prescribing Ionising Radiation (X-Ray) Data Collection System* is key to the monitoring process. To support compliance with the monitoring requirements, each health care

organisation commits to providing nurse prescribers of medical ionising radiation (X-Ray) with individual access to a computer, email and the internet for data input on an ongoing basis.

5.8 Data Collection System Training

Education and training on the use of the system will be provided by personnel from the Office of the Nursing Services Director and delivered locally by staff from the Centre of Nurse/Children's Nurse Education. Such education delivery should occur in collaboration with Information Technology Departments. User manuals will be provided for all users (both hard copy and electronic versions).

5.9 System Outputs

The system will generate standardised bespoke reports at local, area and national level as required for monitoring purposes. Report running privileges are role-based and reflect users' particular responsibilities.

5.10 Benefits of System

The health care organisations using this system will experience the following benefits:

- access to the system is possible in any location where there is web access. The system is centrally supported and maintained by the HSE;
- the database is secure and confidential;
- users can easily retrieve information;
- users have the ability to run standard reports;
- it is a tool that supports evidence for continuing competence of prescribers;
- the system is a tool for use as a basis to support audit and evaluation;
- minimal training is required;
- modifications can be made based on user feedback;
- other parameters can be added if required by the main administrator; and
- the system is cost effective.

5.11 Summary

A *National Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset* (Table 5.1) and a *National Nurse Prescribing Ionising Radiation (X-Ray) Data Collection System* were developed by the *Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray)*. The purpose of creating a national minimum dataset is to establish a standardised approach to monitoring the activity of nurses with the authority to prescribe ionising radiation (X-Ray) nationally, area wide and locally. Good corporate and professional governance requires services and relevant nurse prescribers of medical ionising radiation (X-Ray) to monitor this activity. Nurses prescribing of medical ionising radiation (X-Ray) are required to enter minimum data regarding all nurse prescriptions onto the dedicated data collection system.

CHAPTER SIX:

Audit of Nurse Prescribing of Medical Ionising Radiation (X-Ray)

6.0 Introduction

This chapter provides guidance on preparing, planning and undertaking audit of nursing practice in prescribing ionising radiation X-Ray. This was informed by the guidance prepared for the audit of nurse and midwife medicinal product prescribing in use within the HSE since May 2008.

Clinical Audit is a quality improvement process that seeks to improve patient or service user care and outcomes through systematic review of care against explicit criteria and the implementation of change (National Institute of Clinical Excellence 2002).

6.1 Legislative and Regulatory Framework

The National Radiation Safety Committee (NRSC) has overseen an initial audit of radiology, nuclear medicine and radiotherapy as recommended by the *Report of the HSE Task Force on Implementation of Statutory Instrument 478 (2002) and Statutory Instrument 303 (2007)*. Clinical Audit is defined by the SI 478 (2002) as *"a systematic examination or review of medical radiological procedures which seeks to improve the quality and the outcome of patient care through structured review whereby radiological practices, procedures and results are examined against agreed standards for good medical radiological procedures, with modification of practices where indicated and the application of new standards if necessary".*
Requirements arising from the NRSC audit will be communicated to services by that committee. The NRSC audit will be in addition to the audit of nurses prescribing ionising radiation practices undertaken in the services and will apply all HSE employees involved in medical ionising radiation (X-Ray).

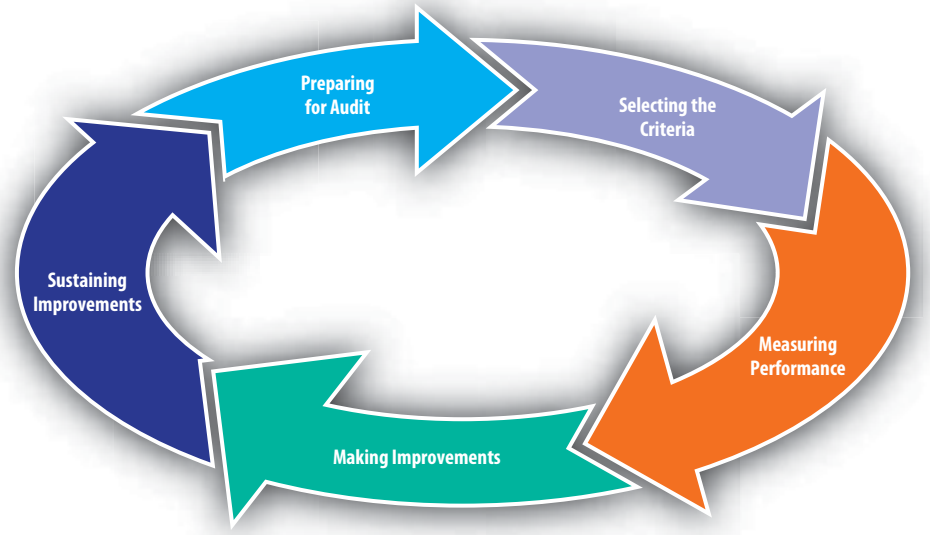
Clinical audit is identified as a necessary element of practice within *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray* (An Bord Altranais 2008). While undertaking audit of nurses' prescribing ionising radiation practices, health care organisations must be familiar with the wider legislation and regulations governing radiation and nurse prescribing of medical ionising radiation (X-Ray) in particular. As part of their terms of reference, the Local Implementation Group ensures audit systems are in place and report to the Chairperson of the Radiation Safety Committee. This chapter is addressing the nursing practice audit only.

6.2 Clinical Audit

The National Quality and Risk Management Standard for the Health Service Executive 2007 defines Clinical and Healthcare Audit as a process which *"…involves comparing current practice to evidence-based best practice in the form of standards, identifying areas for quality improvement and implementing changes to practice to meet the standards".* The objective of clinical audit is to measure and improve the quality of patient or service user care, investigate measures of outcome and compare these across centres and patient or service users groups (HSE 2008d). The audit of nurses' prescribing ionising radiation practices will be undertaken under the guidance of the Director of Nursing and his/her nursing and nurse management teams.

An example of the clinical audit cycle is outlined in Figure 6.1.

Figure 6.1: The Healthcare Audit Cycle (Health Service Executive 2008d)



Donabedian (1980) provides a good example of the components of clinical audit in his classification of structure, process and outcome, which are as follows:

- **Structure:** this relates to the setting and resources (equipment and staffing levels) that are in the health care setting to support nurses prescribing ionising radiation (X-Ray). In ensuring these are in place, the implementation group may refer to the Declaration Form (see Appendix 7) and for *Nurse Prescribing of Ionising Radiation (X-Rays) Minimum Data Set.*
- **Process:** this focuses on the organisational processes including quality assurance, for example the activity and practice of individual nurse prescribers of ionising radiation (X- Ray) or prescription writing. Are they in line with best practice and are they improving patient flow through services?
- **Outcome:** this evaluates the effect of clinical decision-making and practice on patient or service users' outcomes. This can be achieved by identifying and measuring performance indicators such as patient satisfaction.

6.3 Performance Indicators

Performance indicators (PIs) have been defined as *"measurement tools, screens or flags that are used as guides to monitor, evaluate and improve the quality of patient care, clinical support services and organisational systems that affect patient outcomes"* (Mainz 2003) Performance indicators should be based on explicit or implicit standards of care that have been developed from internationally recognised evidence-based standards. The service where nurses are prescribing ionising radiation(X-Ray) should agree on the outcomes they wish to achieve for their patients or service users, and then decide on which aspects of care will be measured. This will form the basis for formulating the indicators. Performance indicators will enable health service providers to monitor and evaluate how well X-Ray prescribing by nurses is functioning within the organisation to provide for the needs of service users. This will be supported by the data held in the *National Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset* which will generate local reports on prescribers' activity such as:

- number of authorised prescribers in the healthcare organisation;
- clinical/service area where prescribers; and
- date, time and types of X-Ray prescribed by individual nurse prescribers.

In addition the Local Implementation Group (LIG) will develop a process for peer review of prescribing practices which will serve to refine and improve prescribing practices. The LIG may also examine prescriber-related adverse incidents should they arise through risk management reporting mechanisms.

6.4 Who Should Undertake Audit and When?

Nursing audit can be carried out by an individual, a group, a department or a health care setting. Audit of nurse X-Ray prescribing may be undertaken by:

- self (nurse prescribers of ionising radiation (X-Ray);
- peers - qualified nurses with authority to prescribe ionising radiation (X-Ray);
- nursing management;
- clinical audit support staff/practice development facilitators/risk advisors; and
- other identified members of the multidisciplinary team.

It is recommended that audit of nurse prescribing of ionising radiation(X-Ray) should be undertaken quarterly for the first year and subsequently every six months. Having identified who will undertake the audit, the individual or group should set the objectives, key responsibilities and audit timeframe.

6.5 Data Collection

The audit person or group should consider the standards that will be audited relative to the audit objectives. Data collection tools are required for audit of nurse X-Ray prescribing. See Appendix 12 for suggested layout.

Data should then be collected from an agreed data source, which may include:

- *Nurse Prescribing Ionising Radiation Minimum Dataset Collection System*;
- X- Ray prescription request form/record;
- health care record review;
- incident report forms; and
- peer review.

6.6 Sampling

The audit group should identify sample size, which is the number of prescriptions or activity episodes that will be audited. Sample size may vary and should take account of who is carrying out the audit and the size of the population being audited. A sample may be selected to review any of the following objectives:

- all entries to the *National Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset* Nurse can be selected for monitoring of nurse prescribing activity;
- a sample of completed X-Ray request forms may be selected for audit of prescription writing practice; and
- a sample of Incident Report Forms may be selected and reviewed to ensure incidents and near misses are being reported and managed.

6.7 Data Analysis

The purpose of analysing the data is to establish if the standards are being met and to identify areas where practice needs to be improved. Data analysis should be kept as simple as possible. The audit should be completed by writing a clinical audit report, which compares the actual practice with the standard. It should identify shortcomings and needed improvements. The audit report should include the following headings:

- title of audit;
- background information;
- participants in audit design;
- criteria/standards;
- objectives of the audit;
- methodology;
- findings;
- conclusion; and
- recommendations.

The report should be simple and clear; use plain English; use a structured, systematic approach; and include an agreed action plan if required (see Appendix 13 for a sample clinical audit report). Audit reports are directed to the Local Implementation Group; the chair of Local Implementation Group will make the Radiation Safety Committee aware of any relevant finding as deemed appropriate.

6.8 Making Improvements

The audit loop may require a Quality Improvement Plan (QIP). This might include:

- Who is responsible?
- What resources are required?
- What is the timescale?
- What are the necessary accountability structures, in addition to the Local Implementation Group; for example, clinical audit committee?

The audit and quality improvement plans should be subject to ongoing monitoring and evaluation (see Appendix 14 for sample quality improvement plan layout example). Other useful resources for audit can be found in Appendix 15.

6.9 Ethical Considerations

All legal and ethical guidelines should be adhered to and the confidentiality of patient or service user, staff and the health care provider should be protected at all times.

6.10 Summary

Clinical audit is important quality improvement mechanism that healthcare professionals are required to engage in. Audit of nursing practice is discussed in this chapter and a standardised approach to nurse prescribing of medical ionising radiation (X-Ray) is recommended. To this end, a sample audit tool, action plan, quality improvement plan and audit report are provided.

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GLOSSARY

Clinical Audit

A systematic examination or review of medical radiological procedures which seeks to improve the quality and the outcome of patient care through structured review whereby radiological practices, procedures and results are examined against agreed standards for good medical radiological procedures, with modification of practices where indicated and the application of new standards if necessary. **S.I. 478** (Government of Ireland 2002)

Clinical Governance

A framework through which organisations are accountable for continually improving the quality of their service and safeguarding high standards of care by creating an environment in which excellence will flourish (adapted by Scally & Donaldson 1998).

Clinical Supervisor

A registered medical practitioner/other appropriate nurse/advanced nurse practitioner with authority to prescribe ionising radiation as agreed by the Local Implementation Group (LIG). The clinical supervisor must agree to observe, supervise, provide guidance / Clinical Supervisor will document and undertake the clinical assessments to deem the nurse competent or not competent to prescribe ionising radiation (X-Ray).

Corporate Governance

The system by which organisations direct and control their functions and relate to their stakeholders in order to manage their business, achieve their missions and objectives and meet the necessary standards of accountability, integrity and propriety (HSE 2006)

Competence

The ability of a registered nurse or midwife to practise safely and effectively, fulfilling their professional responsibility within their scope of practice (An Bord Altranais 2000b).

Governance

Systems, processes and behaviour(s) by which organisations lead, direct and control their functions in order to achieve organisational objectives, safety and quality of service and in which they relate to patients/service users and carers, the wider community and partner organisations (Department of Health and Children 2006)

Quality Assurance

All those planned and systematic actions necessary to provide adequate confidence that a structure, system, component or procedure will perform satisfactorily and comply with agreed standards. **S.I. 478** (Government of Ireland 2002)

Quality Control	The set of operations (programming, co-ordinating, implementing) intended to maintain or to improve quality. It covers monitoring, evaluation and maintenance at required levels of all characteristics of performance of equipment that can be defined, measured, and controlled. **S.I. 478** (Government of Ireland 2002)
Radiation Safety	A committee established in accordance with regulation Committee 22, **S.I. 478** (Government of Ireland 2002)
Radiographer	A person who has successfully completed an approved course of training for that category of persons and who is qualified to be employed as a radiographer by a health board.
Radiological	Pertaining to radio diagnostic and radio therapeutic procedures, and intervention radiology or other planning and guiding radiology.

APPENDIX 1:

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Terms of Reference and Rules of Procedure of the National Radiation Safety Committee

*(Medical Exposure Radiation Committee)**

as required in Statutory Instrument 478 (2002) /

*(as required in proposed amendment to regulations)**

1. AUTHORITY

1.1 The National Radiation Safety Committee (NRSC) is an Advisory Committee established by Health Service Executive as a requirement under SI 478 (2002).

1.2 The name of this committee has to be altered to Medical Exposure Radiation Committee (MERC) in proposed amendment to SI 478. These terms of reference will be adopted as the new terms of reference for the new named committee (MERC) when regulation is amended and will incorporate changes to role as may be defined in the amendment.

2. MANDATE

2.1 The committee assists and advises the CEO, HSE in relation to any matters pertaining to medical exposure of patients to ionising radiation.

The role of NRSC/MERC in association with NRSC/MERC office will also include:

- Establish population dose level, i.e., the total population exposure to ionising radiation in liaison with RPII.
- Produce annual report.
- Review relevant new clinical risk practices to ensure that the exposure and outcome for the patient is in line with international best practice and provide advice where applicable.
- Monitor radiation dose reference levels as established by Irish Medical and Dental Councils.
- Receive reports on incidents as required and advise where appropriate.
- Gather lifetime data on equipment and an assurance that each piece is recorded as being maintained.
- Issue Guidance Notes where applicable
- Any other appropriate matters that may arise.

2.2 The Committee provides advice and guidance on issues arising from the legislative obligations placed on it in SI 478 (2002).

3. COMPOSITION

3.1 The committee consists of no more than 10 members, appointed by the CEO, HSE for a period not exceeding five years. Members will appointed for various lengths to allow for rotation of members and maintenance of continuity. It is expected membership will expand to 12 when regulation is amended and CEO will appoint remaining 2 members.

3.2 All reasonable travel and subsistence will be paid to members of the committee in accordance with HSE Regulations in respect of members attendance at meetings.

4. CHAIRPERSON

4.1 The Chairperson is appointed by the CEO, HSE.

4.2 The Chairperson is responsible for the efficient conduct of the business of the committee, in particular by:

- planning the work of the committee together with the secretary to the committee,
- monitoring, together with the secretary to the committee, that the rules of procedure are respected,
- ensuring that at the beginning of each meeting, any potential conflict of interest is declared regarding any particular item to be discussed by the committee,
- aiming to achieve consensus on issues discussed by the committee,
- ensuring, together with the committee and the secretary to the committee, the regulatory and scientific consistency of the committee's recommendations,
- co-ordinating, together with the secretary to the committee, the work of the committee with that of its subcommittees,
- reporting on the activities of the committee as appropriate.

4.3 The work of the committee is supported by the MERC Unit, HSE and the work programme is agreed and regularly reviewed between Chair of the Committee and the Secretary of the Committee or the manager of the unit, including commissioning research.

5. MEETINGS

5.1 Meetings are held with sufficient frequency to enable the committee to carry out its functions. Normally, one meeting is held in each quarter for first year and biannually thereafter. If appropriate, the Chairperson will consult with HSE in determining the frequency of meetings. A special meeting can be convened if required by the Chair, in consultation with HSE.

5.2 Members may participate in meetings after their first meeting by telephone, teleconference or videoconference.

5.3 Meetings are chaired by the Chairperson. In his/her absence, an acting Chairperson is appointed.

5.4 The committee may act in the absence of one or more members. If members cannot attend all or part of a meeting, they should notify the secretary to the committee in advance of the meeting.

5.5 The quorum for meetings is one-half of the appointed committee membership plus one.

5.6 Where a member does not attend committee meetings for two consecutive meetings and following a failure to satisfactorily resolve the matter, the Chairperson will write to HSE about the member's non-attendance. Until the matter is resolved, the quorum will be reduced by one.

5.7 The agenda is established by the Chairperson and if appropriate, in consultation with HSE and the secretary to the committee. It is circulated with related papers in advance of the meeting.

5.8 Each member of the committee present has one vote. Decisions are made by consensus or by a majority of the votes of the members present. If there is an equal division of votes, the Chairperson has a casting vote.

5.9 Any employee of HSE or other person may be invited to attend for particular items at the discretion of the Chairperson but they are not entitled to vote.

6. MINUTES OF MEETINGS

6.1 Minutes of each meeting are prepared by the secretary to the committee.

6.2 The minutes indicate the names of the attendees, and in respect of each item on the agenda:

- the documents submitted to the committee;
- a summary record of the proceedings; and
- the decisions taken or the conclusions reached by the committee.

6.3 Draft minutes are sent to members before the next meeting. They are adopted at the following meeting and signed by the Chairperson.

7. WRITTEN PROCEDURE

7.1 The Chairperson may initiate a written procedure for decisions.

7.2 Draft written decisions are sent to the members who are requested to respond with their agreement or comments within a specified period of time, usually 10 days.

7.3 The quorum must be reached for any decision taken by written procedure.

7.4 A full report on the outcome of the procedure and the decision taken is presented at the next general meeting of the committee.

8. REPORTING

8.1 The outcome of meetings is reported to HSE. The Chairperson will inform the HSE of significant issues discussed at the committee and, where necessary, present recommendations for the HSE consideration and decision.

9. SUBCOMMITTEES

9.1 The committee may recommend to the CEO, HSE the appointment of subcommittees from time to time and as it sees fit to perform its function.

9.2 The CEO, HSE may appoint to a subcommittee, persons who have a special knowledge and experience related to the purpose of the subcommittee. The appointment of a person to a subcommittee is subject to such terms and conditions as the CEO, HSE may determine.

9.3 The committee may at any time dissolve a subcommittee.

9.4 The acts of a subcommittee are subject to confirmation by the committee unless the committee dispenses with the necessity for confirmation.

9.5 The committee may regulate the procedure of subcommittees but, subject to any such regulation, subcommittees may regulate their own procedure.

9.6 The Chairperson will notify CEO, HSE of the establishment of a subcommittee, of the purpose of the subcommittee and of the names of its members.

9.7 The CEO, HSE may appoint additional persons to be members of any subcommittee with notification to the chair of NRSC/MERC.

head of radiology(Consultant Radiologists)

9.8 The terms of reference and rules of procedure of subcommittees are determined and reviewed periodically by the committee and reports on the proceedings of the subcommittees are submitted to it.

10. GUARANTEES OF INDEPENDENCE AND CODE OF CONDUCT

10.1 The names of the committee members and their professional qualifications are made public.

10.2 Members of the committee will make an annual declaration of financial, commercial, professional, beneficiary or any other conflict of interest in relation to any function of the committee or industry or service regulated by it.

10.3 At each meeting, members will declare any financial or other beneficiary interest in any agenda item. When a member is unable to participate in a meeting due to a conflict of interest, he or she must inform the secretary to the committee in advance of the meeting in writing. They will withdraw from the meeting while the item is considered and will not vote or act as a member in relation to it.

10.4 Members of the committee will abide by the committee's code of conduct.

10.5 Members of the committee are required not to disclose information received by them while performing their duties, even after their duties have ceased.

11. LEGAL ISSUES

11.1 The committee may avail of legal advice from HSE on any issues which may arise.

11.2 The members of the committee are indemnified by HSE in relation to their work for this committee.

12. GENERAL PROVISIONS

12.1 These terms of reference and rules of procedure are approved by HSE and the committee, and are made public. Any future changes to these terms of reference as may be required with amended regulations will be reviewed by the committee and approved by HSE. Any future changes to the HSE's code of conduct will be reviewed for their relevance and incorporated in to the committee's code of conduct where relevant.

APPENDIX 2:

Membership of the Advisory Committee for the Implementation of Nurse Prescribing of Ionising Radiation (X-Ray)

Chair: Dr. Siobhán O'Halloran, Nursing Services Director, Health Service Executive, Office of Nursing Services Director (ONSD), Human Resource Directorate.

Name	Title and Representation
Dr. Anne - Marie Ryan	Chief Education Officer, An Bord Altranais (attending as required by Advisory Committee)
Dr. Peter Kavanagh	Director of Radiology, Connolly Hospital Blanchardstown (Official nominee of the Faculty of Radiologists)
Ms. Marie Keane	Director of Nursing, Beaumont Hospital (DATHs)
Ms. Suzanne Dennan	President, Irish Institute of Radiography and Radiation Therapy (IIRRT)
Ms. Anne McMenamin	Chairperson of the Superintendent Radiographic Managers Association
Dr. Karen Robinson	Clinical Risk Advisor, Clinical Indemnity Scheme (CIS) State Claims Agency
Mr. Alan Murphy	Risk Advisor HSE Risk Management Directorate
Ms. Barbara Fitzgerald	Director of Nursing, Naas General Hospital. Irish Association of the Directors of Nursing and Midwifery (National Hospital Office)
Dr. Patricia Fitzsimons	Consultant Radiologist, Sligo General Hospital and Faculty of Radiologists
Mr. Colin Walsh	Chairperson of the Association of Physical Scientists in Medicine
Ms. Breda M. Hayes	Director of Nursing, St. Mary's Hospital, Phoenix Park (PCCC)
Mr. Gerry O'Dwyer	National Hospitals Office Manager, HSE South (Cork & Kerry)
Mr. Paul Gallagher	Director of Nursing, St James' Hospital (DATHs)
Ms. Anna Marie Lanigan	Local Health Manager, Carlow & Kilkenny Local Health Office
Ms. Sheila Sugrue	Nurse Adviser, Nursing Policy Division, Department of Health and Children
Dr. Kathleen Mac Lellan	Head of Professional Development, National Council of Nursing & Midwifery
Dr. Mary Hodson	Director of Centre of Nurse/Midwife Education (Chair of Curriculum Design Team)
Ms. Annette Kennedy	Director of Professional Development, Irish Nurses Organisation (INO)
Ms. Mary Wynne	Director Nursing and Midwifery Planning and Development HSE Dublin North East, Office Nursing Services Director (Project Secretariat)
Ms. Mary F. McCarthy	Area Director Nursing and Midwifery Planning and Development, HSE DNE and ONSD. (Project Manager Nurse Prescribing of Ionising Radiation (X-Ray))
Ms. Valerie Small	Advanced Nurse Practitioner, St. James Hospital (Nurse in Clinical Practice)
Mr. Darren Griffin	Executive Manager, Office Nursing Services Director

APPENDIX 3:

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Policy for Nurse Prescribing of Medical Ionising Radiation (X-Ray)

Policy for local adaptation

Health Service Provider

Details and Logo

Nurse Prescribing Policy Ionising Radiation (X-Ray)

(policy number)

Version Number:	**Issue Status**
Policy Author:	**Author Title:**
Review Frequency:	**Next Review:**

List of committees/health service provider representatives that have approved the policy within the health service provider. Please note this will vary depending on the structures and process of the health service provider.

Table of Contents

Insert index of table of content when policy adapted for implementation locally by LIG.

1.0 Policy Introduction

1.1 Policy development

The policy for nurse prescribing ionising radiation (X-Ray) must be developed within the legislative and regulatory framework and any conditions determined by the health service provider. It should be stated that the policy must be read in conjunction with the legislation, regulation, rules and the An Bord Altranais guidance documents listed below.

1.2 Legislation and Professional Regulation

Irish law was amended in 2007 to allow the opportunity for nurses to expand their scope of practice to include authority to prescribe medical ionising radiation (X-Ray). The Statutory Instrument (SI) No.303 of 2007 amended SI No. 478 of 2002 European Communities (Medicinal Ionising Radiation Protection) Regulations 2002. The S.I. incorporated an amendment to the previous definition of prescriber to include nurses as prescribers of ionising radiation (X-Ray). S.I. No. 303 European Communities (Medical Ionising Radiation Protection (Amendment) Regulation 2007 states that:

"(d) a person whose name is entered on the register of nurses as maintained by An Bord Altranais established by the Nurses Act 1985 and who meets the standards and requirements set down by An Bord Altranais from time to time to allow them to refer individuals for medical exposures to a practitioner".

1.3 Professional Regulation (Nursing)

An Bord Altranais (ABA) is the statutory regulatory body for Nurses and Midwives in Ireland. Following consultation with the Faculty of Radiologists, ABA published the *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray) (An Bord Altranais 2008).* The Requirements and Standards document outlines the requirements for nurse education and the approval process for education providers for the provision of education for authority to prescribe ionising radiation (X-Ray) in terms of learning outcomes, competencies for authority to prescribe ionising radiation, syllabus/indicative content, theoretical and clinical instruction and scope of practice for prescribing ionising radiation.

In addition nurses prescribing ionising radiation (X-Ray) must practise in accordance with guidance issued by An Bord Altranais including:

- *Recording Clinical Practice-Guidance to Nurse and Midwives (2002)*
- *The Code of Professional Conduct for each Nurse and Midwife (2000)*
- *Review of the Scope of Nursing and midwifery Practice Final Report (2000)*

2.0 Policy Statement

Identify the purpose of the policy within the health care setting; for example, to ensure that within the health care setting, the implementation and development of nurse prescribing ionising radiation (X-Ray) is supported by a clear set of principles and arrangements within the overall clinical governance framework, legislation and professional guidelines.

3.0 Purpose

Express the reason why the health service provider has decided to introduce nurse prescribing ionising radiation (X-ray); for example, developing new ways of working, providing better access, meeting patient or service user needs in partnership and collaboration with the inter- and multidisciplinary teams. The aim here is to:

- Link the introduction of nurse prescribing ionising radiation (X-Ray) to strategic service developments;
- Provide clear guidance underpinned by the legislative and regulatory framework and conditions applied by the health service provider to allow nurses to prescribe ionising radiation (X-Ray);
- Commit to the principle that nurse prescribing ionising radiation (X-Ray) must be embedded within a sound, robust clinical governance framework with regular auditing and evaluation;
- Provide clear lines of responsibility and accountability to support nurses prescribing ionising radiation (X-Ray);
- Ensure the safety of patients or service users;
- Highlight best practice supported by relevant documents and policies which will support nurse prescribers to maintain and improve their prescribing competencies; and
- Communicate the health care provider's structures and processes to support nurse prescribing ionising radiation (X-Ray).

4.0 Scope of Policy

1. Detail who the policy applies to: for example, nurses prescribing ionising radiation (X-Ray and key stakeholders.
2. Identify who is authorised by the health service provider to prescribe, and for which specific patient/client group or service within the health care setting.
3. Detail any conditions determined by the health service provider that apply to the practice nurse prescribing ionising radiation (X-Ray).

5.0 Definitions

Competence – the ability of the registered nurse to practise safely and effectively fulfilling her/his professional responsibility within her/his scope of practice *(Review of Scope of Practice for Nursing and Midwifery,* An Bord Altranais, 2000b).

Nurse - a woman or man whose name is entered in the An Bord Altranais register and includes a midwife and nursing *(Nurses Act 1985)*.

Ionising radiation - Radiation that produces ionisation in matter. Examples are alpha particles, gamma rays, x-rays and neutrons. When these radiations pass through the tissues of the body, they have sufficient energy to damage DNA. *(Health Protection Agency 2009)*

X-Ray- A discrete quantity of electromagnetic energy without mass or charge. Emitted by an X-Ray machine. *(Health Protection Agency 2009)*

6.0 Roles and Responsibilities

6.0.1 Local Implementation Group

The role of the local Implementation Group has responsibility to:

- Identify suitable clinical areas for the introduction of nurse prescribing of medical ionising radiation (X-Ray) in the local health services.
- Implement policies, protocols, guidelines to support the practice change.
- Ensure robust clinical competency assessment systems are in place.
- Establish a link to the database of nurses prescribing ionising radiation (X-Ray) in each hospital.
- Monitor impact of the change in practice on radiology services.
- Ensure risk management structures are in place.
- Review any unexpected incidents or events.
- Ensure audit systems and feedback mechanisms are in place including feedback\learning mechanisms.
- Oversee evaluation process of all aspects of the change.
- Report to Radiation Safety Committee.

6.0.2 Director of Nursing

The Director of Nursing must plan the strategic direction of nurse prescribing ionising radiation (X-Ray) in line with national and local policy direction.

The Director will sign the nurse prescribing ionising radiation (X-Ray) declaration form on behalf of the health service provider and in so doing commits to ensuring that the following structures are in place to support nurses prescribing ionising radiation (X-Ray):

- **Selection of prescribers** - Ensures that all entrants to the prescribing of the ionising radiation (X-Ray) education programme are selected according to criteria indicating their potential to prescribe safely in the area in which they will practise
- **Authorisation to commence prescribing** - Authorises nurses who have successfully completed the education programme to be entered on the national database and to commence prescribing ionising radiation (X-Ray)
- **Safe management** – Ensures an organisational policy for nurse prescribing ionising radiation (X-Ray) is in place, as is the ability to safely manage and quality assure prescribing practices. Risk management systems must also be in place and processes for adverse event reporting.
- **Education and Practice Development** - includes appropriate Clinical Supervisor arrangements and commitment to continuing education for staff supporting the prescribing initiative.
- **Co-ordination** - A named individual with responsibility for the initiative locally and for liaison with the education provider, An Bord Altranais and the HSE Offices of the Nursing Services Director. Commitment to comply with and ensure data input for the *Nurse Prescribing Ionising Radiation (X-Ray) Data Collection System.* Access to a computer, email and internet for data input to the *Nurse Prescribing Ionising Radiation (X-Ray) Data Collection System*.
- **Audit and Evaluation** - A mechanism to audit the nurse prescribing Ionising Radiation (X-Ray) practices

- **Final approval process** - Once all the structures, process, policies and procedures are established to support nurses prescribing ionising radiation (X-Ray) in accordance with the legislative and regulatory framework, the Director of Nursing on behalf of the health service provider [name organisation] must give the final approval and enter the nurse prescriber on to the national database thus authorising the nurse to commence prescribing ionising radiation (X-Ray) in the health service setting.

6.0.3 Nurse Manager of the Nurse Prescriber (X-Ray)

- Detail the responsibilities of the relevant nurse manager within the health care setting for nurse prescribing ionising radiation (X-Ray).
- Detail the responsibilities of the nurse line manager in relation to nurse prescriber ionising radiation (X-Ray) working within their area of responsibility.
- Details responsibilities in relation to audit such as receiving, interpreting and responding appropriately to audit reports conducted by the nurse prescribing ionising radiation (X-Ray). This may include:
  - Coordinating the development, implementation, monitoring and evaluation of the structures and processes to support safe nurse prescribing of prescribing ionising radiation (X-Ray) and ensuring its compliance with the requirements and standards of An Bord Altranais and the Health Service Executive;
  - Acting as a central point of contact for the nurse prescribing ionising radiation (X-Ray), for clinical supervisors, medical practitioners and key stakeholders in order to communicate regarding the nurse prescribing ionising radiation (X-Ray) initiative;
  - Liaising with nurses both undertaking educational preparation and those authorised to prescribe ionising radiation (X-Ray), the Local Implementation Group risk management, radiology departments and all other relevant stakeholders;
  - Facilitating nurses prescribing ionising radiation (X-Ray within health service provider to meet their responsibilities to ensure safe and effective prescribing
  - Supporting the implementation of the monitoring, audit and the evaluation processes for nurses authorised to prescribe prescribing ionising radiation (X-Ray);
  - Overseeing the monitoring, audit and evaluation of prescribing ionising radiation (X-Ray) in line with the health service providers audit policy; and
  - Providing reports on the development, introduction, monitoring and evaluation of nurse prescribing ionising radiation (X-Ray) the health service provider.

6.0.4 Responsibilities of the Clinical Supervisor

It is the responsibility of the clinical supervisor to:

- Provide support, teaching and learning opportunities in the clinical practicum;
- Facilitate learning by encouraging critical thinking and reflection;
- Provide dedicated time and opportunities for the nurse to conduct a full episode of care to include prescribing ionising radiation (X-Ray);
- Ensure the nurse integrates theory with practice;
- Verify and document all supervised practice for the duration of the programme;
- Meet formally to review progress;

- Formally assess the nurse's competence in the clinical practicum using the Assessment Tool for Assessing Clinical Competence (episode five and episode 10);
- Document that the nurse is competent or not competent (Appendix10);
- Collaborate with the Programme Co-ordinator to ensure adequate support for the nurse in the clinical practicum.
- Sign the Nurse Prescribing of Medical Ionising Radiation Declaration Form (Appendix 7) to confirm his/her commitment to the process.

The clinical supervisor has no further role following the nurses completion of the educaitn programme.

6.0.5 Nurse Undertaking Education Programme

When undertaking the education programme the nurse will:

- Successfully complete the Certificate *Nurse Prescribing Ionising Radiation (X-Ray)*;
- Ensure that the theoretical and clinical experience requirements and assessments are completed within the required timeframe;
- Discusses with the director/prescribing site coordinator any situations where these responsibilities cannot or are not being fulfilled; and
- Present evidence of successful completion of the programme to the Director of Nursing.

6.0.6 Nurse Authorised to Prescribe Ionising Radiation (X-Ray)

The Nurse with Authority to Prescribe Ionising Radiation (X-Ray)

- Is responsible for the assessment of the patient/service user, determining what the problem is and making a diagnosis that may lead to a clinical decision to prescribe ionising radiation (X-Ray). The registered nurse prescriber holds full accountability and responsibility for this process/action.
- Ensures their name is entered in HSE national database.
- Practises in compliance with all of the relevant statutory provisions, An Bord Altranais guidelines and all local guidelines and conditions.
- Prescribes for patient/service user populations within the practice setting and scope of practice set out in their local policy.
- Inputs information for the *National Nurse Prescribing Ionising Radiation (X-Ray) Minimum Data Set* on all prescriptions written in the *Nurse Prescribing Ionising Radiation (X-Ray) Data Collection System* and furnishes statistical reports as required.
- Commits to and undertakes continuing professional development to maintain their competence for prescriptive authority. Informs the director or line manager of any concerns pertaining to their competence.
- Conducts audits of prescribing ionising radiation (X-Ray) practice and furnishes reports as required.
- Works collaboratively with other members of the healthcare team in order to enhance therapeutic outcomes for patients/service users.
- Acts as an educated advisor to other students undertaking the certificate in nursing (nurse prescribing ionising radiation (X-Ray).
- Maintains ongoing communication and collaboration with members of the health care team including collaborating medical practitioners and the radiology departments.

- Discusses with the Director of Nursing or designate any situations where these responsibilities cannot or are not being fulfilled.

7.0 Eligibility to Prescribe

Conditions to be applied by the health service provider in regard to giving nurses authority to prescribe ionising radiation (X-Ray) within the site must be identified. Include in the policy that nurses authorised to prescribe ionising radiation (X-Ray) must:

- Be registered in the General and or/ Children's nurse division of the An Bord Altranais Register;
- Have successfully completed the designated education programme;
- Be employed by the health service provider;
- Have received approval for prescriptive authority from the director of midwifery/public health or relevant nurse manager on behalf of the health service provider and be entered on the database;
- Have a full understanding of the requirements of health service provider's prescribing policy;
- Detail any other specific requirements that the health service provider requires to authorise a nurse prescribing ionising radiation (X-Ray) to practise within the site.
- Detail all local policies, protocols and guidelines that staff must adhere to in implementing prescriptive authority for nurses; for example, the use of order communications systems or hard copy prescriptions.

8.0 Indemnity

Consider including the statement on the cover provided by the State Claims Agency (CIS) – see below extract from the State Claims Agency Statement (20th April 2009) (Appendix 4).

9.0 Procedure

9.0.1 Verification of prescribing status

Detail processes in place for key stakeholders within and outside the health care setting to verify prescribing status of the nurse authorised to prescribe ionising radiation (X-Ray).

9.0.2 Good prescribing practice

Detail the arrangements for the following practices:

- Responsibility for prescribing decisions:
- Mandatory Patient / service user and prescriber details:
- Legibility:
- The use Royal College of Radiology Referral guidelines: and
- Patient referral and follow up pathway (Policy Annexe 2)

9.0.3 Reporting of near misses and adverse drug reactions

Detail the process within the health care setting for reporting adverse incidents

9.0.4 Information sharing

Identify the process in place to ensure patients or service users, their families and other health care professionals are informed about the scope and limits of the nurse prescribing ionising radiation (X-Ray) initiative.

9.0.5 Record keeping

Detail the requirements for documentation and maintenance of records including the need for accurate, legible, unambiguous and contemporaneous records.

9.0.6 Monitoring of prescribing

Outline the process to monitor the safety, effectiveness, appropriateness and acceptability of prescribing ionising radiation (X-Ray) practice.

Detail the requirement for and arrangements in place to enable a nurse prescribing ionising radiation (X-Ray) to monitor their own prescribing practice.

Outline the requirement for the nurses prescribing ionising radiation (X-Ray) to collect and input all information required for the National Nurse Prescribing Ionising Radiation (X-Ray) Minimum Dataset.

9.0.7 Audit

Detail the auditing process to be put in place by the health service provider [name organisation] including arrangements necessary to ensure that practice is based on sound clinical evidence, and is cost effective.

9.0.8 Changes to the status of Nurse Prescribing ionising radiation (X-Ray)

Detail the process to be followed if there is a change in:

- Contact details, such as name, address etc;
- Scope of practice;
- Competencies (if a nurse prescribing ionising radiation (X-Ray) is out of practice for a period of time; for example, long-term sick leave, detail the process to be followed to ensure they are still competent to prescribe); and
- In addition, the nurse prescribing ionising radiation (X-Ray) is responsible for maintaining competence for their prescriptive authority as per *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray) (An Bord Altranais 2008).*

Reference:

An Bord Altranais (2000) *Scope of Nursing and Midwifery Practice Framework.* An Bord Altranais, Dublin.

An Bord Altranais (2008) *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray).* An Bord Altranais Dublin.

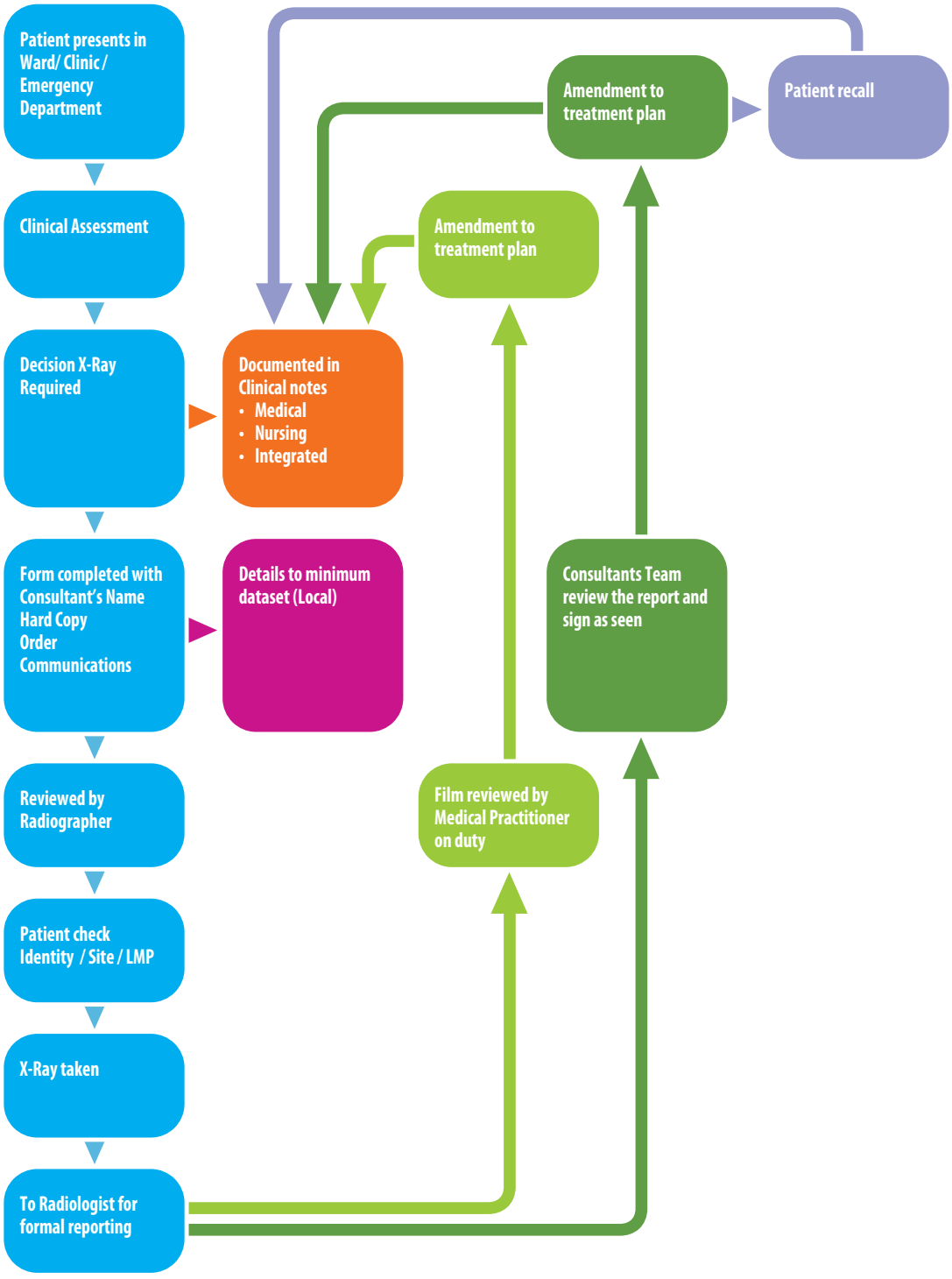
Health Protection Agency (2009) retrieved from [http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1153846673585?p=1153846673585 on April 8, 2009]

Policy Annexe 1: Local Implementation Group Membership

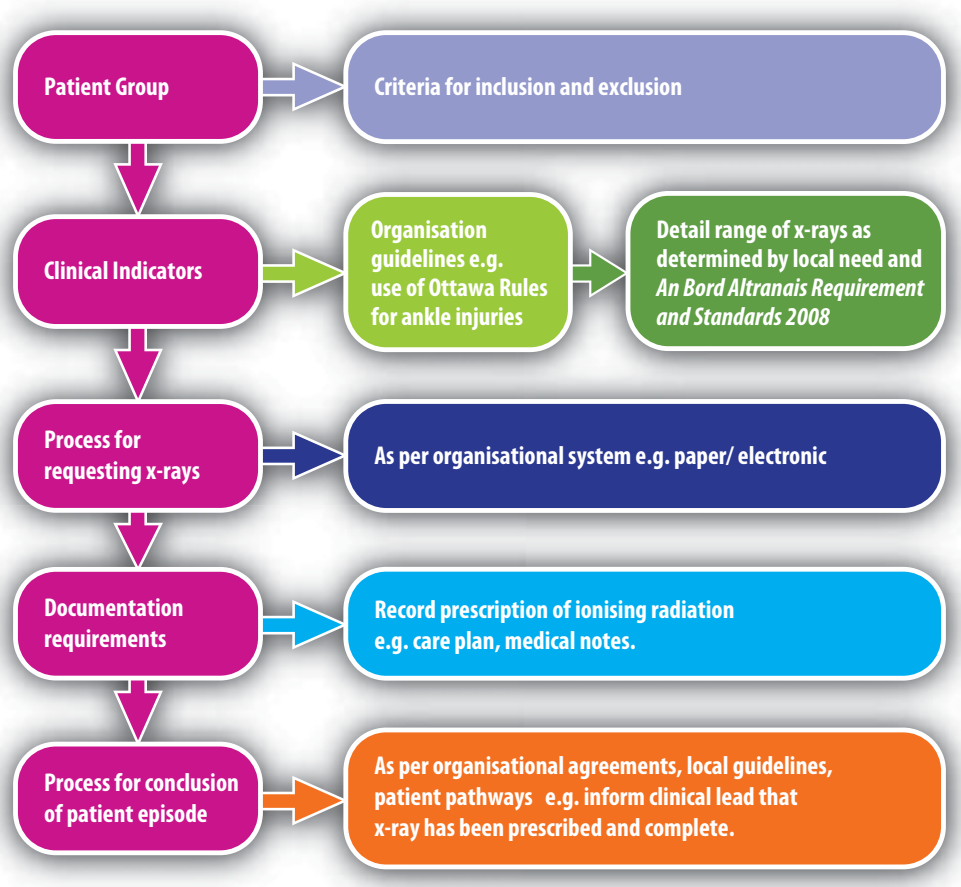
Local Implementation Group will include representation from:

- Consultant Radiologist
- Radiography Department(s)
- Director(s) of Nursing Services (National Hospitals Office Network and Primary, Community and Continuing Care)
- Clinical Director / Medical Director
- Chief Executive Officer / National Hospitals Office Network Manager / Local Health Office Manager or designate
- Director, Nursing Midwifery Planning and Development
- Director, Centre for Nurse Education/Children's Nurse Education
- Programme Coordinator, Centre of Nurse Education/Children's Nurse Education
- Representation from other sectors i.e. independent / voluntary as required

Policy Annexe 2: Nurse Prescribing Ionising Radiation - Patient Pathway



Policy Annexe 3: Scope of Nurse Prescribing Ionising Radiation



Policy Annexe 4: Scope of Practice

An Bord Altranais (2008) Requirements and *Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)* lists the usual range of X-Rays that a registered nurse (who has successfully completed an approved education programme) can prescribe. The list of plain film X-Rays is provided as *a guide when determining the range of X-Rays an individual can prescribe and it is important the nurse must consider her/his scope of practice and any local guidelines/policies relating to this role* (ABA 2008 p18).

Chest
Chest
Abdomen
Abdomen
Pelvis
Pelvis
Hip
Upper Limb
Shoulder
Elbow
Wrist
Clavicle
Acromio-clavicular joint
Humerus
Forearm
Scaphoid
Hand
Finger/thumb
Lower Limb
Femur
Knee
Ankle
Foot
Patella
Tibia and fibula
Toe

The registered nurse with authority to prescribe ionising radiation, practising within their scope of practice, can make an independent decision to prescribe medical ionising radiation (X-Rays) and is professionally accountable for his or her decision. It is understood while the nurse operating within his/her scope of practice to prescribe medical ionising radiation (X-Ray), it is the patients named Consultant who bears ultimate responsibility for patient care in a particular area of the hospital where the nurse functions as part of the multidisciplinary team. This is the Consultant who assumes responsibility for treatment actions that may be necessary as a result of findings on radiographic studies that the nurse may have requested. The request card, (which may be substituted by an electronic request in those hospitals where electronic systems have replaced hand-written cards) for a radiographic study written by the nurse must also contain the name of the Consultant.

APPENDIX 4:

Clinical Indemnity Scheme Correspondence

State Claims Agency

20th April 2009

Nurse Prescribing of Ionising Radiation

This notice applies only to enterprises/individuals covered under the Clinical Indemnity Scheme. For more information please go to www.stateclaims.ie

The Clinical Indemnity Scheme (CIS) was established in July 2002 and is managed by the State Claims Agency. Under the scheme the State assumes full responsibility for the indemnification and management of all clinical negligence claims against enterprises and practitioners covered by the scheme.

CIS indemnity is provided in respect of a claim for personal injuries brought by a person alleging negligence, statutory or at common law, in respect of the provision of, or failure to provide, professional medical services. With respect to Nurse prescribing of Ionising Radiation, the CIS provides indemnity cover to nurse prescribers, and to registered practitioners who act as clinical supervisors of nurse prescribers of ionising radiation whilst they undergo training.

The CIS does not provide cover in respect of criminal matters i.e. where the Director of Public Prosecutions (DPP) directs criminal charges against a nurse or doctor.

The CIS does not provide representation for nurses/doctors in relation to fitness to practice issues. In that regard, the State Claims Agency advises doctors and nurses to ensure that they have additional benefits cover specifically in respect of criminal and fitness to practise matters from their nursing and medical defence organisations.

APPENDIX 5:

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Membership of Nurse Prescribing of Ionising Radiation Education Sub-Committee

Membership

Dr. Peter Kavanagh, Director of Radiology, Connolly Memorial Hospital, Faculty of Radiologists at RCSI - official nominee

Ms Margaret McCarthy, Director, Centre of Nurse Education, Mater Misericordiae University Hospital, Dublin 7

Ms Anne McMenamin, Chairperson of the Superintendent Radiographic Managers Association and Radiographic Manager in Beaumont Hospital Dublin

Ms Suzanne Dennan, President of Irish Institute of Radiography and Radiation Therapy (IIRRT), and Dept. of Radiography, St. James's Hospital, Dublin 8.

Ms Valerie Small, Advanced Nurse Practitioner, St. James's Hospital, Dublin 8.

Mr. Colin Walsh, Chairperson of the Association of Physical Scientists in Medicine, (APSM), Department of Radiography, St. James' Hospital, Dublin 8.

Mr. Dara Murphy, Chair, Radiation Protection Special Interest Group, Medical Physicist, Radiology Department, Our Lady's Children's Hospital, Crumlin, Dublin 12.

Ms Mary Godfrey, Director, Centre of Children's Nurse Education, Our Lady's Children's Hospital, Crumlin, Dublin 12

Dr. Mary Hodson, Director Centre of Nursing and Midwifery Education Sligo/ Leitrim and lead of the Curriculum Design Team

Ms Catherine Deegan, Head of Learning & Development, St James's Hospital, Dublin 8.

Ms Mary Wynne, Director, NMPD, Dublin North East / ONSD, HSE

Mary F. McCarthy, Area Director NMPD, Dublin North East and Project Manager

APPENDIX 6:

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Education Programme Application Form

Nurse Prescribing of Ionising Radiation (X-Ray) Education Programme Application Form

Please Attach the Nurse's Curriculum Vitae - One Page

Applicant's Name:

Position:
(Staff Nurse / CNM / CNS / ANP etc)

Hospital:

Department/Unit:

An Bord Altránais PIN Number:

Division of the An Bord Altránais Register:

Employee Number:

Contact No.:

E-mail Address (if Available):

Name of Director of Nursing:

Name of Clinical Supervisor:

Title of Clinical Supervisor:

Nurse prescribing of ionising radiation (X-Ray) Declaration Form completed and attached
Yes ☐ No ☐

Nurse's Curriculum Vitae attached
Yes ☐ No ☐

APPENDIX 7:

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Nurse Prescribing of Medical Ionising Radiation (X-Ray) Declaration Form

Name of Nurse Applicant: **Name of Health Care Institution:**

Criteria	Yes	No	Comment
Governance			
Is there a commitment by the management of the health care institution to support the introduction of nurse prescribing of ionising radiation (X-Ray)?			
Are you willing to implement the organisational policy for nurse prescribing of ionising radiation (X-Ray) as developed by the Advisory Committee?			
Is there a Local Implementation Group for nurse prescribing of ionising radiation (X-Ray) already established?			
Does the nurse applicant have a commitment from a designated clinical supervisor for the duration of the 3 month programme?			
Is there agreement to support the Data Collection System to monitor nurse prescribing of ionising radiation (X-Ray)?			
Risk Management			
• Are the following risk management systems in place?			
• Adverse event/Near miss reporting System			
• Adverse event/Near miss monitoring system			
• Adverse event/Near miss review mechanism i.e. systems analysis, root cause analysis			
Evaluation			
Does the clinical practice placement area in which the nurse will obtain the required clinical practice experience satisfy *An Bord Altranais Requirements and Standards for Post Registration Education Programmes?*			
Has nurse prescribing of ionising radiation (X-Ray) targets/outcomes been included on key performance indicator targets for service area?			

Name of Director of Nursing:
Signature of Director of Nursing:
Date:

Name of Clinical Supervisor:
Signature of Clinical Supervisor:
Date:

Head of Radiology (Consultant Radiologist):
Signature of Head of Radiology (Consultant Radiologist):
Date:

APPENDIX 8:

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Units of Learning

Programme for Nurse Education Programme for Authority to Prescribe Medical Ionising Radiation (X-Ray)

Programme Design Team

Dr. Mary Hodson, Director, Centre of Nursing and Midwifery Education, Health Service Executive West (Sligo/Leitrim) and Programme Design Team Coordinator.

Mary Godfrey, Director, Centre of Children's Nurse Education, Our Lady's Children's Hospital, Crumlin, Dublin 12.

Margaret McCarthy, Director, Centre of Nurse Education, Mater Misericordiae University Hospital, Dublin 7.

Catherine Deegan, Director, Centre for Learning and Development, St. James's Hospital, Dublin 8.

Mary Wynne, Director, Nursing and Midwifery Planning and Development, Health Service Executive Dublin North East.

Advisors to the Programme Design Team

Mary F McCarthy, Area Director, Nursing and Midwifery Planning and Development, Health Service Executive Dublin North East.

Valerie Small, Advanced Nurse Practitioner, St. James's Hospital, Dublin.

Administrative Support

Janette Crowley and Hugh O'Neill, Office of the Nursing Services Director

Maura Hanly, Centre of Nursing and Midwifery Education, Health Service Executive West (Sligo/Leitrim)

Developed by the Centres of Nurse Education with the Faculty of Radiologists of RCSI

Theoretical Instruction

The theoretical instruction outlined in the syllabus / indicative Content in An Bord Altranais *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (XRay)*(2008) forms the basis of the programme design into three discrete units of learning

The descriptors of Units of Learning are outlined in the following tables.

Unit 1 **Title: Ionising Radiation and Protection**
Aim Critically evaluate the principles of ionising radiation and the integration of these principles in the practice of prescribing ionising radiation (X-Ray).
Learning Outcomes On completion of this unit and following a period of personal study, it is intended that the nurse should be able to: • Evaluate the legislation, and regulatory framework underpinning the safe practice of prescribing ionising radiation (X-Ray). • Gain an understanding of the different types of ionising radiation and the various imaging modalities of ionising and non-ionising radiation. • Discuss the radiation doses and risks associated with various radiological examinations. • Discuss the principles of radiation protection and their relevance to prescribing ionising radiation taking cognisance of the ALARA principle; ALARA is an acronym for an important principle in radiation protection and stands for "**a**s **l**ow **a**s **r**easonably **a**chievable". • Integrate the principles of radiation protection and associated techniques in the practice of prescribing ionising radiation (X-Ray). • Discuss the interaction of ionising radiation with matter and the potential biological effects. • Recognise the importance of radiation protection in pregnancy for staff, patients and the public.
Indicative Time Allowances Direct Contact Hours 8 hours Independent Learning Time 28 hours* **TOTAL 38** hours *** must include an orientation visit to the Radiology Department in the local hospital**

UNIT 1: Syllabus / Indicative Content
Legislation and regulatory framework underpinning the safe practice of prescribing ionising radiation Introduction to Electromagnetic Spectrum, Matter & Energy Levels • Planar x-ray Production, Interaction with Matter & Image Formation • Radiation Doses & Dose Equivalents for Examinations within Scope of Practice • Biological Effects of Radiation • Dosimetry (Theory of Radiation Detection & Measurement) Practical Aspects of Radiation Protection for Patients and Staff within a general x-ray room and within a ward for portable x-rays. • Radiation Protection in Pregnancy for Patients and Staff • Dose Reduction (time, distance, shielding)
Teaching and Learning Strategies Modified lectures; discussion; clinical site visit; seminars; case based presentations; independent learning

Recommended Reading

Ball J. & Moore A.D. (1997) *Essential Physics for Radiographers*. Wiley Blackwell, London.

Brady. L.W., Heilman. H.P., Molls. M., Schligel W., Brotfeld T. & Grosu A.L. (2006) *New Technologies in Radiation Oncology. (Medical Radiology / Radiation Oncology)*. Springer, New York.

Croft J.R., Thomas G.O. & Walker S. (1999) *Ionising Radiation*. National Radiological Protection Board, London.

European Commission (1998) *Radiation Protection 99: Guidance on Medical Exposures in Medical and Biomedical Research*. Office for Official Publications of the European Communities, Luxembourg.

European Commission (1998) *Radiation Protection 100: Guidance for Protection of Unborn and Infants Irradiated due to Parental Medical Exposures*. Office for Official Publications of the European Communities, Luxembourg.

Government of Ireland (2000) *Radiological Protection Act, 1991 (Ionising Radiation) Order 2000, S.I. No 125 of 2000*. The Stationery Office, Dublin.

Martin C. J. & Sutton D.G. (2002) *Practical Radiation Protection in Healthcare*. Oxford University Press, New York.

Mossman K.L. (2006) *Radiation Risks in Perspective*. CRC Press, Florida / New York.

Velasco R., Fouillat P. & Reis R. (2007) *Radiation Effects on Embedded Systems*. Springer, New York.

Method of Assessment

Multiple Choice Questions

Unit 2
Title: Professional Accountability and Responsibility and the Associated Legal and Ethical Aspects

Aims

Explore professional responsibility and accountability in the context of the regulatory framework with regard to the authority to prescribe ionising radiation (X-Ray).
Critically appraise the legislative framework and ethical implications underpinning the authority to prescribe ionising radiation (X-Ray).

Learning Outcomes

On completion of this unit and following a period of personal study, it is intended that the nurse should be able to:

- Critically appraise the roles and responsibilities of other health care professionals involved in the process of prescribing, and/or interpreting ionising radiation (X-ray) procedures and referral.
- Analyse the responsibility to develop and maintain professional competence with regard to the practice of prescribing ionising radiation (X-Ray) within his / her scope of practice.
- Critically discuss the clinical governance structures / processes, risk management factors and self audit in relation to the practice of prescribing ionising radiation (X-Ray).
- Adhere to appropriate national and local guidelines, policies and protocols for prescribing ionising radiation (X-Ray) and referral within the scope of practice.
- Determine the legal basis regarding duty of care; nursing negligence.
- Recognise the duty of care and professional responsibility / accountability / liability in the context of having the authority to prescribe ionising radiation (X-Ray).
- Critically appraise documentation / record keeping (written and electronic) from a legal perspective with regard to the practice of prescribing ionising radiation (X-Ray).

Indicative Time Allowances

Direct Contact Hours	8 hours	
Independent Learning Time	8 hours*	**TOTAL 16 hours**

Syllabus / Indicative Content

1. Professional Accountability

- Professional regulation/Nurses Act 1985
- Code of Professional Conduct for each Nurse and Midwife
- Professional competence
- Clinical governance: structures / processes
- Risk management: employers requirements / policies for reporting prescribing errors / (adverse) incidents / near misses / untoward event (s) / non compliance with policies
- Critical review and self audit of the practice / patterns in prescribing ionising radiation (X-Ray)
- Professional / legal responsibility / autonomy / accountability / implications of expanded professional nursing practice

Record management (written and electronic) / electronic prescribing /abbreviations and acronyms

2. Legislation for Nursing and Prescribing Ionising Radiation (X-Ray)

Legislation, regulatory framework, guidelines and policies underpinning the safe practice of prescribing ionising radiation (X-Ray).

ICRP, Euratoms (European Legislation), transcription into Irish Law (Statutory Instruments), S.I. 478 & S.I. 125.

- Clinical application of this legislation
- Radiation Safety Committee (membership, roles & responsibilities)
- Radiation Incident Reporting Requirements

Roles and Responsibilities of:

- Practitioner
- Prescriber
- Radiographer/ Radiation Safety Officer
- Radiation Protection Advisor
- Medical Physics Expert
- Prescribing within a paper and digital environment (hardcopy and electronic ordering)

Delivered By Radiation Safety Officer (Clinical Specialist Radiographer) on Day 2 over 4 hours with remaining four hours of nursing theory delivered Day 4 by local CNE TOTAL time: 8 Hours

3. Legal liability and clinical indemnity for prescribing ionising radiation (X-Ray) and expansion of nursing practice

Expanding the scope of practice

Negligence: duty of care; liability

Personal health information / privacy / confidentiality

4. Informed consent of patient / client

Patient / client autonomy / Competence and non-competence

Consent and Minors (under 16): assent; consent

Emergency Treatment – 'Therapeutic Privilege'

Teaching and Learning Strategies

Pre course reading; modified lectures; group work; discussions; independent learning throughout the programme.

Recommended Reading

An Bord Altranais (2000) The Code of Professional Conduct for Each Nurse and Midwife. An Bord Altranais, Dublin.

An Bord Altranais (2000) Scope of Nursing and Midwifery Practice Framework. An Bord Altranais, Dublin.

An Bord Altranais (2000) Guidance to Nurses and Midwives on the Development of Policies, Guidelines and Protocols. An Bord Altranais, Dublin.

An Bord Altranais. (2002) Recording Clinical Practice Guidance to Nurses and Midwives An Bord Altranais, Dublin.

An Bord Altranais (2008) Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (XRay). An Bord Altranais, Dublin.

British Medical Association (2001) Consent, Rights and Choices in Health Care for Children and Young People. British Medical Journal Books, London.

Dooley D. & McCarthy J. (2005) Nursing Ethics. Irish Cases and Concerns. Gill and McMillan, Dublin.

European Commission (2000) Radiation Protection 116. Guidelines on Education and Training in Radiation Protection for Medical Exposures. Directorate General Environment, European Commission, Brussels.

Government of Ireland (1985) Nurses Act. The Stationery Office, Dublin.

Government of Ireland (1991) Child Care Act. The Stationery Office, Dublin.

Government of Ireland (1997) Non-fatal Offences Against the Person Act. The Stationery Office, Dublin.

Government of Ireland (2002) Statutory Instruments S.I. No. 478 of 2002 European Communities (Medical Ionising Radiation Protection) Regulations 2002. The Stationery Office, Dublin.

Government of Ireland (2007) Statutory Instruments S.I. No. 303 of 2007 European Communities (Medical Ionising Radiation Protection)(Amendment) Regulations 2007. The Stationery Office, Dublin.

Madden D. (2002) Medicine, Ethics and the Law. Butterworths, Dublin.

McCarthy B. M.E. & Binchy W. (2005) Law of Torts. 3rd edn. Tottel Publishing, Dublin.

Medical Council of Ireland (2004) Criteria for Clinical Audit. Medical Council of Ireland, Dublin.

Mills S. (2007) Clinical Practice and the Law. 2nd edn. Tottel Publishing, Dublin.

Pearson A., Field J. & Jordon Z. (2007) Evidence – Based Clinical Practice in Nursing and Health Care. Churchill Livingstone, London.

Swage, T. (2000) Clinical Governance in Health Care Practice. Butterworth-Heinman, Oxford.

Thompson I.E., Melia K.M., Boyd K.M. & Horsburgh D. (2006) Nursing Ethics. 5thedn. Churchill Livingstone Elsevier, Edinburgh.

Van Dokkum N. (2004) Nursing Law for Irish Students. Gill and McMillan, Dublin.

United Nations (1989) United Nations Convention on the Rights of the Child. Office of the United Nations High Commissioner for Human Rights, Geneva

Method of Assessment

Two Assessments of Clinical Competence (at episode five and ten). Reflective practice assignment.

Unit 3
Title: Principles of the Prescribing Process for Ionising Radiation (X- Ray)

Aims

Prepare the nurse to integrate the required knowledge, skills and attitudes to support the practice of prescribing ionising radiation (X-Ray).
Further develop effective interpersonal skills necessary for collaborative working relationships with other relevant health care professionals to facilitate the nurse with authority to prescribe ionising radiation (X-Ray).
Enhance the caring therapeutic nurse – patient / client relationship in the context of this expanded area of practice.

Learning Outcomes

- On completion of this unit and following a period of personal study, it is intended that the nurse should be able to:
- Conduct a comprehensive, systematic, holistic assessment of the patient /client including history taking, relevant observations and physical assessment based on nursing theory and evidence-based practice.
- Justify and give rationales to support the clinical decision-making of the nurse to prescribe of ionising radiation (X-Ray) in consultation with the patient / client and members of the interdisciplinary members of the health care team.
- Prescribe ionising radiation (X-Ray) for patients / clients safely and effectively.
- Write and process an X-Ray request form (hard copy and electronic)
- Decide when referral to appropriate health care professionals is required.
- Differentiate between risk and benefit in decision-making pertaining to prescribing ionising radiation (X-Ray).
- Establish and maintain accurate clear and current patient/client records to support safe practice, clinical audit (prescribing practice/patterns), professional accountability and interdisciplinary sharing.

Indicative Time Allowances

Direct Contact Hours	12 hours	
Independent Learning Time	24 hours*	**TOTAL 36 hours**

Syllabus /Indicative Content

- Using clinical history, physical assessment of patient, diagnostic and clinical reasoning to request x-ray examinations (as justified in line with RCR & European Guidelines)
- Risk versus benefit in relation to prescribing x-ray examinations within scope of practice
- Provide adequate & appropriate clinical indication to justify x-ray examinations
- Adhere to appropriate national and local standard operational guidelines, policies and protocols for prescribing x-ray examinations.
- Working in Collaboration with members of the interdisciplinary healthcare team
- Standard operational guidelines, policies/protocols for prescribing x-ray examinations.

*** includes a one hour reporting session with a consultant radiologist in the local hospital**

Teaching and Learning Strategies

Modified lectures; group work; discussion; independent learning; case based presentations / scenarios; simulated learning for clinical skills / workshops.

Recommended Reading

Baert A.L., Tack D. & Gevenois P.A. (2007) Radiation Dose from Adult and Paediatric Multidetector Computed Tomography. (Medical Radiology / Diagnostic Imaging) Springer, New York.

Bickley L. S. & Szilagyi P. G. (2007) Bates Guide to Physical Examination and History Taking. 10th edn. Lippincott Wilson and Wilkes, Philadelphia.

Craig J.V. & Smyth R.L. (eds.) (2007) The Evidence- Based Practice Manual for Nurses. 2nd edn. Churchill Livingstone Elsevier, Edinburgh.

European Commission (2000) Radiation Protection 118. Referral Guidelines for Imaging. Office for Official Publications of the European Communities, Luxembourg.

European Commission (2008) Radiation Protection 118. Referral Guidelines for Imaging Update March 2008. Office for Official Publications of the European Communities, Luxembourg.

Hoyt R., Sutton M. & Yoshashi A. (2007) Medical Informatics: Practical Guide for the Healthcare Professional 2007. Lulu Com, New York.

Mettler F.A. (2004) Essentials of Radiology. Springer, New York.

Medical Council of Ireland (2007) X-Rays – Benefits and Risks. Medical Council of Ireland, Dublin.

Peto R. (2008) Why did you do it like that? Examining clinical decisions. Paediatric Nursing 20 (5), 26-28.

Royal College of Nursing (2006) Clinical Imaging Requests from Non-Medically Qualified Professionals. Royal College of Nursing, London.

The Royal College of Radiologists (2007) Making the Best Use of Clinical Radiology Services. Referral Guidelines. 6th edn. The Royal College of Radiologists, London.

Thompson C. & Dowling D. (eds.) (2002) Clinical Decision Making and Judgement in Nursing. Churchill Livingstone, Edinburgh.

Method of Assessment

Supervised episodes of prescribing ionising radiation (no less than 10); Two Assessments of Clinical Competence (at episode five and ten); Reflective practice assignment.

APPENDIX 9:

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Record of Nurse's Supervised Episodes of Prescribing Ionising Radiation (X-Ray)

Centres of Nurse/Children's Nurse Education (Health Service Executive and Voluntary)

Nurses Education for Authority to Prescribe Ionising Radiation (X-Ray)

Name _____
(Please Print)

Signature _____

An Bord Altranais PIN _____

Developed by the Centres of Nurse Education with the Faculty of Radiologists of RCSI

Guidelines for Recording Episodes of Prescribing Ionising Radiation (X-Ray)

1. An Bord Altranais *Requirements and Standards for Education Programmes for Nurses for Authority to Prescribe Ionising Radiation (X-Ray)* (2008) specifies that there shall be **"no less than 10 episodes of prescribing ionising radiation (X-Ray)"** as an essential requirement of the clinical instruction of the programme.
2. The aim of this record is to demonstrate the nurse's progress towards the achievement of competence in prescribing ionising radiation (X-Ray).
3. A partnership approach involving the nurse and the supervisor is to be adopted.
4. This document is intended to act as a clinical record for the nurse undertaking this education programme, as verification of having undertaken a minimum of 10 episodes of prescribing ionising radiation (X-Ray) as part requirement of the clinical instruction component.
5. For each of the 10 episodes of prescribing ionising radiation (X-Ray), the nurse must specify:
   - patient / service user nursing assessment;
   - rationale for prescribing ionising radiation (X-Ray);
   - type of X-ray prescribed;
   - interventions (if appropriate) and indicating by whom undertaken;
   - follow-up (including collaboration with members of the multidisciplinary team and referral to as required); and
   - patient / service user outcome(s).
6. Each episode must be signed and dated both by the nurse and the supervisor.
7. The nurse should include this record in the clinical portfolio maintained throughout the education programme.
8. The record of episodes of prescribing ionising radiation (X-Ray) must be submitted for review to the programme coordinator at a specified date prior to completion of the programme.
9. The record will form part of the audit process of the nurse's patterns and practices of prescribing ionising radiation (X-Ray).
10. The record remains the property of the nurse.

Exemplar: Record of Nurse's Supervised Episodes of Prescribing Ionising Radiation (X-Ray). A single record is used for each: Episode 1 – Episode 10.

Date	Medical Record Number
Nursing Assessment	
Rationale for X-Ray	
Type of X-Ray prescribed	
Interventions (if appropriate)	Undertaken by
Follow up	
Patient / Service User Outcome	
Nurse's signature Date	Supervisor's signature Date

Episode 5: ASSESSMENT of CLINICAL COMPETENCE 1
Episode 10: ASSESSMENT of CLINICAL COMPETENCE 2

SIGNATURE BANK

Supervisors Name (Please print)	Signature	Initials

APPENDIX 10:

Centres of Nurse Education

(Health Service Executive and Voluntary)

Nurses Authority to Prescribe Ionising Radiation (X-Ray)

Assessment Tool for Assessing Clinical Competence

Name _____
(Please Print)

Signature _____

An Bord Altranais PIN _____

Developed by the Centres of Nurse Education with the Faculty of Radiologists of RCSI

Guidelines for Assessing the Clinical Competence of the Nurse with Authority to Prescribe Ionising Radiation (X-Ray)

1. An Bord Altranais Requirements and Standards for Education Programmes for Nurses for Authority to Prescribe Ionising Radiation (X-Ray) (2008) specifies that there shall be "a demonstration of competence" in addition to having no less than 10 episodes of prescribing ionising radiation (X-Ray) as an essential requirement of the clinical instruction of the programme.
2. This Assessment Tool for Assessing Clinical Competence of the nurse is another essential requirement of the clinical instruction component of the programme and part of the assessment processes employed throughout the education programme.
3. The aim of this assessment tool is to ensure that:
   - the requirements and standards including the learning outcomes of the education programme have been achieved;
   - the nurse is deemed competent or not competent to prescribe ionising radiation (X-Ray) by the medical practitioner or other appropriate practitioner during two episodes of supervised practice;
   - identify the areas for improvement where further development of knowledge, skill(s) and practice if required by the nurse; and
   - inform the development of an action plan(s), in tandem with the reflective practice assignments if required.

4. **The clinical competence of the nurse must be assessed on two episodes of prescribing ionising radiation (X-Ray), that is on episode five and also on episode 10.**
5. This assessment forms only one component of the assessment processes.
6. The two completed assessments must be kept in the nurse's clinical portfolio for this programme.
7. The nurse will also undertake a theoretical assessment and a reflective practice written assignment. The nurse must complete all three assessments successfully before he/she will be deemed competent to undertake independent prescribing of ionising radiation (X-Ray).
8. In the event that the nurse is not deemed competent on the second assessment of prescribing ionising radiation (X-Ray), that is at episode 10, the programme co-ordinator in partnership with the nurse will arrange for a further four weeks of supervised practice; the number of episodes of prescribing ionising radiation (X-Ray) to be undertaken in that period will be determined and a date scheduled for further assessment.

Domain 1: Professional / Ethical Practice	**Assessment 1**	**Date**	**Assessment 2**	**Date**
	Please tick as appropriate		*Please tick as appropriate*	
	Competent	*Not competent*	*Competent*	*Not competent*
Accepts personal accountability for prescribing ionising radiation (X-Ray), understanding the legal implications of doing so.				
Conducts self-audit and peer review of practice incorporating reflective thinking to identify competence to prescribe ionising radiation (X-Ray) within the nurse's scope of practice.				
Consults appropriately with the medical practitioner or other appropriate practitioner for a patient/client when the individual nurse perceives limitations in his/her knowledge or scope of practice of prescribing ionising radiation (X-Ray).				
Complies with the requirements/ policies/ protocols of the employing organisation for: • nurses with authority to prescribe ionising radiation (X-Ray) • reporting prescribing errors/incidents, risk occurrences and near misses • audit of prescribing patterns/ practices				

Domain 2: Holistic Approaches to Care and the Integration of Knowledge	Assessment 1	Date	Assessment 2	Date
	Please tick as appropriate		*Please tick as appropriate*	
	Competent	*Not competent*	*Competent*	*Not competent*
Performs an assessment of the patient/ client need for ionising radiation (X-Ray) encompassing history taking, physical examination and identification of health risks within the context of the multi-disciplinary team.				
Articulates, justifies and documents the rationale for each x-ray request. Prescribes appropriate ionising radiation (X-Ray) with reference to departmental / organisational protocols within the nurse's scope of practice.				
Critically utilises assessment data with expert clinical decision-making knowledge and skills to formulate a plan of care based on scientific rationale, evidence-based care and practice guidelines supporting the maintenance and promotion of health.				
Initiates appropriate and timely consultation and/or referral when the action required exceeds the nurse's scope of practice and expertise.				
Evaluates and provides evidence-based rationale for clinical and nursing intervention with regard to ionising radiation (X-Ray) prescribing or referral to medical practitioner if applicable.				

Domain 3: Interpersonal Relationships	Assessment 1	Date	Assessment 2	Date
	Please tick as appropriate		*Please tick as appropriate*	
	Competent	*Not competent*	*Competent*	*Not competent*
Communicates sensitively, respecting patient's/client's emotions and concerns. Provides the patient with all relevant information in relation to their episode of care.				
Assesses patient's/client's understanding of his/her care plan recognising relevant individual patient/client characteristics and expectations, involving carers where appropriate.				
Maintains comprehensive documentation and patient/client records of plan of care within a legal and ethical framework.				
Collaborates with all members of the multidisciplinary team and uses established mechanisms for referral and consultation regarding practice decisions including follow up.				
Within the context of the multi-disciplinary team, schedules appropriate follow-up care so any specific intervention or treatment as appropriate can be initiated and completed for each patient/client.				

Domain 4: Organisation and Management of Care	Assessment 1	Date	Assessment 2	Date
	Please tick as appropriate		*Please tick as appropriate*	
	Competent	*Not competent*	*Competent*	*Not competent*
Articulates a thorough understanding of the principles of exposure to ionising radiation as outlined in the legislation.				
Integrates the principles of clinical risk management and health and safety in prescribing ionising radiation (X-Ray).				
Demonstrates quality assurance and quality management in prescribing ionising radiation (X-Ray) through a structure of audit and report.				

Domain 5: Personal and Professional Development	Assessment 1	Date	Assessment 2	Date
	Please tick as appropriate		*Please tick as appropriate*	
	Competent	*Not competent*	*Competent*	*Not competent*
Maintains current knowledge in relation to own scope of nursing practice, with particular reference to prescribing ionising radiation (X-Ray).				
Uses the outcomes of audit and evidence-based practice to improve service provision and develop own practice in relation to prescribing ionising radiation (X-ray)				

Assessing the Clinical Competence of the Nurse with Authority to Prescribe Ionising Radiation (X-Ray)

Assessment 1

Nurse _____ is COMPETENT to prescribe ionising radiation (X-Ray)

Assessor _____

I have observed this nurse's practice. He/she has achieved the indicators above, and has safely and effectively prescribed ionising radiation (X-Ray).

Signature _____ **Date** _____
Medical Practitioner or other appropriate practitioner

Nurse

I have achieved the indicators above, and have safely and effectively prescribed ionising radiation (X-Ray). I am now responsible for maintaining my standard of clinical practice in prescribing ionising radiation (X-Ray) and for seeking whatever resources necessary to maintain this standard.

Signature _____ **Date** _____

Position/Grade _____ **An Bord Altranais PIN** _____

Assessing the Clinical Competence of the Nurse with Authority to Prescribe Ionising Radiation (X-Ray)

Assessment 1

Nurse _____ is NOT COMPETENT to prescribe ionising radiation (X-Ray)

Assessor _____

I have observed this nurse's practice. He/she has not achieved some / all (please circle) the indicators above and will require additional supervised practice (as outlined in the following Action Plan).

Signature _____ **Date** _____
Medical Practitioner or other appropriate practitioner

Nurse

I have not achieved the indicators above. I must now develop an action plan identifying areas for improvement where further development of knowledge, skill(s) and practice is required.

Signature _____ **Date** _____

Position/Grade _____ **An Bord Altranais PIN** _____

Action Plan following Assessment 1		
Identify Areas for Improvement	Activity to be undertaken by the nurse	Date for review by supervisor

Assessing the Clinical Competence of the Nurse with Authority to Prescribe Ionising Radiation (X-Ray)

Assessment 2

Nurse _____ is COMPETENT to prescribe ionising radiation (X-Ray)

Assessor _____

I have observed this nurse's practice. He/she has achieved the indicators above, and has safely and effectively prescribed ionising radiation (X-Ray).

Signature _____ **Date** _____
Medical Practitioner or other appropriate practitioner

Nurse

I have achieved the indicators above, and have safely and effectively prescribed ionising radiation (X-Ray). I am now responsible for maintaining my standard of clinical practice in prescribing ionising radiation (X-Ray) and for seeking whatever resources necessary to maintain this standard.

Signature _____ **Date** _____

Position/Grade _____ **An Bord Altranais PIN** _____

Assessing the Clinical Competence of the Nurse with Authority to Prescribe Ionising Radiation (X-Ray)

Assessment 2

Nurse _____ is NOT COMPETENT to prescribe ionising radiation (X-Ray)

Assessor _____

I have observed this nurse's practice. He/she has not achieved some / all (please circle) the indicators above and will require additional supervised practice (as outlined in the following Action Plan).

Signature _____ **Date** _____
Medical Practitioner or other appropriate practitioner

Nurse

I have not achieved the indicators above. I must now develop an action plan identifying areas for improvement where further development of knowledge, skill(s) and practice is required.

Signature _____ **Date** _____

Position/Grade _____ **An Bord Altranais PIN** _____

Action Plan following Assessment 2		
Identify Areas for Improvement	Activity to be undertaken by the nurse	Date for review by supervisor

APPENDIX 11:

Guidelines for Reflection on Practice

Centres of Nurse Education

(Health Service Executive and Voluntary)

Nurses Authority to Prescribe Ionising Radiation (X-Ray)

Assessment Tool for Assessing Clinical Competence

Name _____
(Please Print)

Signature _____

An Bord Altranais PIN _____

Developed by the Centres of Nurse Education with the Faculty of Radiologists of RCSI

The aim of reflecting on the practice of prescribing ionising radiation (X-Ray) is to ensure that the nurse develops the required knowledge, skills and competence necessary to prescribe ionising radiation (X-Ray) safely, effectively and appropriately within her/his scope of practice upon successful completion of the education programme for *Nurses for Authority to Prescribe Ionising Radiation (X-Ray)*.

Guidelines for Reflection on Clinical Practice
The Assessment Tool for Assessing Clinical Competence for Nurses with Authority to Prescribe Ionising Radiation (X-Ray) should be used to guide reflection and analysis. The nurse is required to write a structured analysis of and reflection on his/her prescribing practice. This will be undertaken near the final recorded episodes of prescribing ionising radiation (X-Ray) (between episode eight and 10).

On completion of this analysis, the nurse is then required to discuss it with his/her supervisor to maximise learning and its implications for his/her future practice in relation to prescribing ionising radiation (X-Ray).

The written episode will contribute to the overall marks for the theoretical assessment of the education programme.

Reflection on Clinical Practice
Reflecting on practice is best achieved with the use of a model or framework. Several are available to facilitate and underpin this process and the model selected for this education programme is Gibbs

(1988). This model will facilitate this process by facilitating the learner to first describe the experience and this enables the explicit, overt action-planning component of reflection, which is integral to the development of clinical practice.

Guidelines for Reflection

Select an episode of prescribing ionising radiation that made a significant impression and influenced your learning and subsequent practice. Critically explore this experience using the Gibb's Cycle of Reflection (1988) and the specific indicators within the Domains of Competence (An Bord Altranais 2008)

Assignment Guidelines

Word limit	1,800 -2,000 words (+ / - 10%)
Marks	50% of total marks available for the theoretical component
Submission Date	to be confirmed

Structure of Assignment

Refer to the literature to support reflection and analysis.

Describe the episode of prescribing ionising radiation (X-Ray)

What were you thinking and feeling at that time?

What were the issues raised at this time?

What was positive and negative about this episode?

What sense can you make of the episode?

What else could you have done?

If a similar episode occurred again, what would you do differently?

What are the key learning points form this episode?

What are the implications of this learning for your future practice of prescribing ionising radiation?

Further Reading

Boud D., Keogh R. & Walker D. (1995) *Reflection: Turning Experience into Learning.* Kogan Page, London.

Bulman C. & Schutz S. (eds.)(2004) *Reflective Practice in Nursing.* Blackwell Scientific, Oxford.

Johns C. (2004) *Becoming A Reflective Practitioner.* 2nd edn. Blackwell Publishing, Oxford.

Johns C. & Freshwater D. (2005) *Transforming Nursing Through Reflective Practice.* Blackwell Science, Oxford.

Ooigen E. (2007) *Clinical Supervision Made Easy.* Royal College of Nursing Publications, London.

Schon D. A. (1983) *The Reflective Practitioner: How Professionals Think in Action.* Harper Collins, New York.

Taylor B. (2005) *Reflective Practice: a Guide for Nurses and Midwives.* 2nd edn. Open University Press, Buckingham.

Reflective Cycle

(Gibb's 1988)

APPENDIX 12:

Sample Audit Data Collection Tool for Nurses Prescribing Ionising Radiation (X-Ray)

Part 1: Demographic Details

Name of Nurse Prescriber of Ionising Radiation (X-Ray) :	
Work Address:	
Area of Practice:	
Date of Audit::	
Audited by:	

Source of Data Collection:	Health Care Records Nurse Medical Ionising Radiation (X-Ray) Prescribing Data Collection System Peer Review Prescription Forms

Part 2: Data Collection Tool

	Name of Nurse Prescriber of Ionising Radiation (X-Ray):	Yes	No	Evidence
	An assessment of the patients/service users needs has been recorded by the nurse prescriber Physical examination Patient/service user history			
For handwritten prescriptions:				
	The prescription is legible			
	The prescription is in ink/indelible			
	The prescription is signed by the Registered Nurse			
For handwritten and order communications prescriptions:				
	The name of the nurse prescriber is stated on the prescription.			
	The name of the patient's Consultant is on the prescription			
	Indication/rationale for decision to prescribe ionising radiation (X-Ray)			
	The ward / clinical area is stated on the prescription			
	The prescription is dated and timed (24-hour clock)			
	The full name of the patient/service user is on the prescription.			
	The address of the patient/service user is on the prescription			
	The patient/service user date of birth is stated			
	The name and address of the patient/service user is entered			
	The type and site of X-Ray prescribed is clear			

Source: Office of the Nursing Services Director, HR Directorate, Health Service Executive (2008b)

APPENDIX 13:

Sample Clinical Audit Report for Nurses Prescribing Ionising Radiation (X-Ray)

Clinical Audit Report Template

Submitted to:	Date:
Submitted by:	Date:

Title of Audit:

Background Information:

Were there any Risk Management issues involved? YES/ NO

If yes, please elaborate:

Participants in Audit Design

Name	Job Title	Department

Evidence-based criteria/standards:

Objectives of the Audit:

Methodology:

Findings:

Conclusion:

Recommendations:

Proposed re-evaluation Date:

Source: Office of the Nursing Services Director, HR Directorate, Health Service Executive (2008b)

APPENDIX 14:

Sample Quality Improvement Plan for Nurses Prescribing Ionising Radiation (X-ray)

Quality Improvement Plan

Section: _____ **Date:**_____

Problem identified	Root cause of problem	Actions suggested/ agreed by team	Timeframe	Identified team member responsible	Evidence of completion	Review dates	Outcome

Source: Office of the Nursing Services Director, HR Directorate, Health Service Executive (2008b)

Office of the Nursing Services Director

APPENDIX 15:

Useful Resources for Audit

HSE Learning and Development Centre (HSELAND)

This website provides e-learning opportunities through online tutorials, resources and links on a number areas relating to health care. A module titled "Clinical Audit" is provided by the Health Service Executive e-learning centre. This can be accessed as follows:

Log onto **http://www.hseland.ie**

Follow instructions to Register as a New User

Click tab "Learn"

Click Module "Clinical Audit"

Follow the instructions on-screen to complete the Module

National Institute for Clinical Excellence (NICE)

This site provides guidance on current best practice. NICE is a Special Health Authority for England and Wales which provides patients, health professionals and the public with guidance on current best practice. This guidance covers clinical management of specific conditions. The site includes summary reports of guidelines commissioned by NICE, health technology appraisals and referral practice guidelines.

Related web resource: **http://www.nice.org.uk**

Scottish Intercollegiate Guideline Network (SIGN)

SIGN is a network of clinicians and healthcare professionals including representatives of all the UK Royal Colleges as well as nursing, pharmacy, dentistry and professions allied to medicine. Its objective is to improve the effectiveness and efficiency of clinical care for patients by developing, publishing and disseminating guidelines that identify and promote good clinical practice.

Related web resource **http://www.sign.ac.uk**

National Guidelines Clearing House (NGC)

The NGC provides a searchable database of clinical practice guidelines that have been published in English in the past five years. The National Guidelines Clearing House is sponsored by the Agency for Healthcare Research and Quality in partnership with the American Medical Association of Health Plans.

Related web resource: **http://www.guidelines.gov**

National Library for Health

This NHS site provides a database of evidence-based guidelines. These include guidelines from NICE and professional bodies such as the Royal College of Nursing.

Related web resource: **http://www.library.nhs.uk**

An Bord Altranais - Irish Nursing Board

An Bord Altranais issues policies and guidelines for nurses and midwives. Recent policies and guidelines developed by An Bord Altranais can be found on this site.

Related web resource: **http://www.nursingboard.ie/en/policies-guidelines.aspx**

Royal College of Obstetricians and Gynaecologists

This site contains an article on Clinical Governance, 'Understanding Audit', which can be downloaded.

Related web resource: **http://www.rcog.org.uk**

National Council for the Professional Development of Nursing and Midwifery (NCNM)

The NCNM has published and provided assistance to nurses and midwives and conducted services in identifying nursing and midwifery interventions and outcomes of interventions.

Related web resource: **http://www.ncnm.ie**

Source: Office of the Nursing Services Director, HR Directorate, Health Service Executive (2008b)

Note: This resource list is presented by the Office of the Nursing Services Director to demonstrate the availability of information to assist with clinical audit. The Office of the Nursing Services Director does not accept liability for any injury, loss or damage incurred by use of or reliance on the information. The Office of the Nursing Services Director cannot guarantee and assumes no legal liability or responsibility for the accuracy, currency or completeness of the information on the websites listed. It is the responsibility of the user to make their own decisions about accuracy, currency, reliability and correctness of information contained on the sites listed. These websites or linkage to other websites should not be taken as an endorsement or a recommendation of any content, products or services.

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