

*Report of the Expert Group on*  
**RADIOGRAPHY GRADES**



*July 2001*

# *Executive Summary*

The Expert Group on Radiography Grades was established in accordance with proposals from the Labour Relations Commission. Its aim was to examine and make recommendations for the future development of the profession and the diagnostic imaging and therapy services which ensure the highest level of patient care is delivered in a modern health environment.


The process undertaken involved an enormous input from both health service management, represented by the Health Service Employers Agency (HSEA), and the staff representative body SIPTU, in the form of formal written and oral submissions and by the accommodation of site visits. The Expert Group wishes to acknowledge the valuable contributions made by both parties and also the additional information and submissions received from many groups during the consultation process.

The work of the Expert Group did not progress in isolation and the Group was cognisant of the publication of the April 2000 Report of the Expert Group on Various Health Professions; developments made during the implementation of the Joint Working Party Report; and the ongoing Radiography Service Review. The Expert Group is also aware of the wider organisational and structural changes occurring under the realisation of the 1994 Health Strategy provisions.

The Expert Group is aware of the enormous transformation and ongoing development of the diagnostic imaging and therapy departments which is occurring as a result of advances in the clinical, legislative, scientific and technological spheres. Consequently there is increased potential for the development of the role of the Radiographer which should be realised in areas such as intravenous injections, barium enemas, the red dot system and patient/family support services.

The Expert Group recommends changes to the career structure of Radiographers having regard to training and work requirements, recruitment and retention within the profession and the positioning of the grade vis-à-vis other health professions at basic and senior levels. The Expert Group recognises the higher qualifications and increased responsibility attaching to the post of Clinical Specialist and therefore recommends an adjustment to the salary scale. The Expert Group recommends that two grades of Radiography Service Manager replace the current system where an individual in charge of a Radiography Department could be graded at Superintendent I, II or III level.

In relation to recruitment and retention issues the Expert Group recommends an increase in the number of training places available and changes in recruitment and employment practices to eliminate some disincentives to entering the profession. The Expert Group recommends the establishment of back to radiography refresher courses to facilitate the return of Radiographers to the service. Possible solutions are presented to overcome the difficulties of recruiting staff to smaller radiography departments. The development and utilisation of advances in technology are advocated.



The Expert Group recommends the extension of educational resources to facilitate entry to the profession. In relation to training the Expert Group recommends the extension of clinical tutor posts and increased management training. Devolution of the training budget is also recommended and the radiography schools have been requested to consider alternative formats for the provision of postgraduate training.

The accountability legislation has resulted in the need for the Radiography Services Manager's role to be focused on the management of the service. In this connection the Expert Group recommends the identification of the competencies required for management positions. Further it recommends the need for planned personal and management development programme for the radiography profession. The 'Clinicians in Management' initiative and the establishment of a Joint Radiology Services Management Committee are also encouraged. The Expert Group also recommends that the diagnostic imaging and therapy departments contain the appropriate skill mix and therefore recommends a role for Radiography Assistants.

It is recognised that there are changes taking place which will have consequences for the future delivery of health care with particular impact on the radiography service, such as the development of national standards, demand protocols, European legislation, accreditation, state registration, partnership, etc. Radiographers must work in co-operation with other health care professions and disciplines to continue the development of a progressive and modern health care service which delivers the best possible patient care.

Establishment of the  
Expert Group

## *Chapter 1*

# Establishment of the Expert Group

## *Background*

1. The Labour Relations Commission (Ref. CC97/590) in May 1997, recommended the establishment of an Expert Group for Radiographers as part of a set of proposals to settle their pay claims under the Programme for Competitiveness and Work.

The Expert Group comprised of an independent chairperson (agreed by both parties) and one representative each from the health employers and the staff trade union.

## *The members of the Expert Group were:*

Mr John O'Connell	(Chair and Retired Deputy Chairperson of the Labour Court)
Ms Joy Riordan	(Superintendent Radiographer, Mater Misericordiae Hospital)
Mr Gerry O'Dwyer	(Deputy General Manager, Cork University Hospital Group).

## Terms of Reference

2. The terms of reference for the Expert Group were agreed as follows:
  - The role of the profession.
  - Changes that have taken place in the profession and in this context to address any outstanding anomalies that have arisen.
  - Career structures.
  - Problems relating to recruitment and retention.
  - Training and Education requirements (L.R.C. proposals also provide that "the union shall pursue a claim for qualification/teaching allowances under the aegis of the Expert Group").
  - Management structure and development.
  - Development plans for delivery of services.
  - To provide an agreed structure to ensure an optimum input in policy making for all relevant parties.
  - Interaction with other disciplines.
  - Any other issues which the Group consider relevant to its task.

The Expert Group is aware that parallel to this report, implementation of the Joint Working Party Report on Radiographers 1988 to 1994 is ongoing. In addition the Expert Group notes that a Radiography Service Review, established as part of the Labour Relations Commission proposals (Ref. CC97/590) in May 1997, is also being conducted under the Chairmanship of Mr Kieran Hickey. At the time of going to press this process is ongoing.

### *Method of Inquiry Used by the Expert Group*

3. The Expert Group Chairman first met the management, represented by the Health Services Employers Agency (HSEA) and the staff representative body (SIPTU) to agree the process for examining the issues set out in the terms of reference and an order of business. It was decided that the staff and management sides would each prepare written submissions in advance of each hearing.
4. A schedule of meetings was agreed and the Expert Group was asked to make site visits to a number of workplaces before reaching its conclusions. A schedule for the site visits was drawn up, which subsequently gave an extremely useful insight into the roles and responsibilities of those working in the services, and the pressures and constraints that exist at the point of delivery.
5. The formal hearings commenced in December 1997.
6. The submissions presented by SIPTU on behalf of Radiographers were comprehensive and addressed in some detail each issue covered by the terms of reference.
7. The detailed management submissions presented to the Expert Group in general addressed the issues in the terms of reference as policy issues. The management submission strongly argued that the Expert Group be aware of the wider organisational and structural changes within the health service contained in the 1994 Health Strategy document 'Shaping a Healthier Future'.
8. Most of the submissions were able to draw on previous research and policy reports, including the 1994 Health Strategy document, the Joint Working Party Report<sup>1</sup> and the IPC report<sup>2</sup> (see appendices IV & V), which previously addressed a number of the matters raised during this exercise. The staff side submissions contained detailed descriptions of the developing role of radiography personnel in modern health care, and, apart from their principal purpose they should also serve as important tools for the development of the radiography profession into the future. They should also contribute enormously to the understanding of the role of the radiography profession by other health professionals, managers and policy-makers. For this reason, the Expert Group has included in this report extracts from these submissions relating to their role as described by the Radiographers themselves.

<sup>1</sup> *Report of the Working Group on Radiographers 1988 to 1994; Joint Working Party; July 1994*

<sup>2</sup> *Irish Productivity Centre, Report to the Joint Working Party Diagnostic Radiology Departments Workload Measurement System, Grading in Specialised Areas; Nov 1991*

9. At the conclusion of the hearings, the Expert Group requested additional information from both parties and supplementary submissions were received from many groups; the School of Diagnostic Imaging, University College Dublin, the School of Therapeutic Radiography, University of Dublin, Trinity College, the Irish Institute of Radiography and from the Department of Health & Children.
10. At the request of the profession, the Expert Group made a number of site visits during which they were impressed with the level of professionalism and skills demonstrated by all concerned – Consultant Radiologists, Radiation Oncologists, Non Consultant Hospital Doctors (NCHDs), Radiographers, Darkroom Technicians, Clerical, Physicists, Nurses and support staff. The management at these sites were also very helpful in making the necessary arrangements to ensure that these visits were productive.

### *Sites Visited*

- Mater Misericordiae Hospital, Dublin
  - Cork University Hospital
  - Sligo General Hospital
  - Naas General Hospital
11. The Expert Group decided to examine the organisation and delivery of services in another country. It visited the Netherlands in March 2000, to compare and contrast the elements of the radiography service relevant to the Expert Group's terms of reference. The Expert Group visited the VU Ziekenhuis (Free University Academic Hospital) and the Antoni van Leeuwenhoek Hospital, where it met practitioners and management in relation to the issues.

### *Acknowledgments*

The Expert Group wishes to put on record its gratitude and appreciation for the assistance given by the following:

The Group would like to record an appreciation to the many individual members of the various professions involved together with managers and administrators who met with the Group during the course of its work. These discussions helped to ensure that the Group had a greater understanding of the issues as they affect people in their everyday work.

The conclusions drawn from what was elicited are however entirely the responsibility of the Group.

The Expert Group wishes to acknowledge the co-operation and assistance offered by the practitioners and managers it met at both the VU Ziekenhuis (Free University Academic Hospital) and the Antoni van Leeuwenhoek Hospital, particularly:

- Mr Kees Klarenbeek, General Manager of Radiography
- Mr Peter Derriks, Head Radiographer
- Professor Maliou, Radiologist
- Ms G van der Heide-Schoon, Superintendent Therapy Radiographer
- Mr Peter Elsakker, Head Radiographer Diagnostics

The Expert Group wishes to acknowledge the information on Dexa Scanning and Positron Emission Tomography (PET) supplied by Vera Morrissey, Senior Radiographer Dexa Scanning, Mater Misericordiae Hospital, and Adrian Adams, Radiography Services Manager, Mater Misericordiae Hospital, respectively.

The Expert Group wishes to put on record its very special thanks to our Secretary, Ms Sonia Shortt for all she contributed throughout the work of the Expert Group and in the preparation of this Report. We also wish to thank Ms Orla Tierney and Ms Margaret Brennan for their patience and diligence in typing the many drafts of this Report.

The Expert Group also wishes to acknowledge the work of the April 2000 Report of the Expert Group on Various Health Professions.





The Role  
of the Profession

***Chapter 2***

## The Role of the Profession

12. The medical value of x-rays was rapidly realised by the scientific community since their discovery in 1895. Some major events in the subsequent history are:
  - 1896 First printed photograph of an x-ray in the United Kingdom
  - 1900s Delivery of first Radium treatment for therapeutic purposes
  - 1904 Rieder-Bismuth contrast media for gastrointestinal-tract imaging
  - 1920 First diploma in Radiology (BAARP)  
Society of Radiographers formed
  - 1930 Thorotrast Vascular Radiology introduced
  - 1936 Society of Radiographers becomes a founder member of the Board of Regulation of Medical Auxiliaries
  - 1940s Water soluble contrast media becomes available
  - 1951 First Cobalt treatment for cancer patients
  - 1951 Cope committee recommendations on qualifications for National Health Service (NHS) Radiographers
  - 1950s First Linear Accelerator treatment for cancer patients
  - 1970s Computed Tomography introduced
  - 1985 The Ionizing Radiation Regulations introduced
  - 1988 Protection of persons undergoing Medical Examinations and Treatment Regulations introduced
  - 1990s Rapid growth of magnetic resonance imaging (MRI)
  - 1990s Significant development in the area of Digital Imaging Technology such as the Picture Archiving Communication System (PACS)
13. The Radiographer's responsibility is to undertake a range of techniques in imaging and/or treatment, using the minimum radiation appropriate, while caring properly for the patient. In diagnostic radiography, x-rays, ultra-sound and magnetic resonance imaging (MRI) are currently used in all body systems to assist in rapid and accurate diagnosis of patient illness. In therapeutic radiography, high doses of high-energy radiation are used to treat cancer patients.

The Radiographer integrates seven key areas:

- Patient Care
- Use of Technology
- Optimisation of Dose
- Clinical Responsibility
- Organisation
- Quality Assurance
- Education and Training

14. 'A person shall not carry out, direct or supervise the carrying out of a medical exposure except where that exposure is medically justified'.  
(S I 189 of 1998 paragraph 3)
15. Radiographers have an obligation to query any procedure that they feel is not of direct benefit to the patient before proceeding with the examination. Discussions should commence with the relevant parties to involve radiography staff more in formal structured training in radiation protection for staff.
16. The Expert Group considered the imminent introduction of the statutory instrument to transpose the EU Directive 97/43 Euratom into Irish law. The Expert Group discussed and noted the requirement that only a Practitioner can be responsible for delivery of a radiation exposure.
17. As diagnostic imaging and therapy radiography is rapidly advancing and expanding, the role of the Radiographer must develop with this expansion. Role development not only encourages motivation and stimulates interest it also forms the basis of an improved service for the public. The Expert Group recommends that possible areas for role development in radiography should be considered.

### *Expanding the role of the profession*

18. Developments in the areas of the Red Dot system, and administration of intravenous (IV) injections and Barium enemas are recognised as essential in the interests of patient care.

### *Red dot system*

19. The Radiographer studies each x-ray film or image and indicates the potential presence of an abnormality, by placing a red dot on the film or x-ray envelope. In Computerised Radiography an asterisk or some other indicator would be used. The red dot system assists the doctors by enabling them to focus on those patients with abnormal findings, thus speeding up the throughput of patients, especially in Accident and Emergency departments.
20. The Expert Group recommends that as part of the extended role of Radiographers protocols should be put in place as soon as possible to introduce the red dot or equivalent system in Accident & Emergency Departments.

### *Intravenous injections*

21. The Expert Group recommends that the Radiographer's role be extended to include administration of intravenous injections and that intravenous injection training be available for all Radiographers.

### *Barium enemas*

22. It is recognised internationally that Radiographers are administering barium enemas and the Expert Group recommends that the School of Diagnostic Imaging introduce a course on this procedure in conjunction with the Radiologists.

### *Support Services*

23. As part of the holistic approach to patient care, the Expert Group recommends that consideration should be given to involving Radiographers in the provision of support services to patients and their families, particularly in the provision of radiotherapy services.

Changes that have  
taken place in the  
Profession

## *Chapter 3*

## Changes That Have Taken Place In The Profession And, In This Context, To Address Any Outstanding Anomalies That Have Arisen

24. Patient treatment has evolved rapidly over the last 20 years. There has been an increasing demand for diagnostic services and for the development of new services. Coupled with this has been the introduction of more and more sophisticated equipment and analytical techniques. There has also been widespread introduction of computerisation and an explosion in both scientific and medical knowledge. The last decade has seen massive changes in the field of radiotherapy and the pace of change is likely to continue and increase in the coming years.
25. These changes will have a strong impact on the radiography profession as demonstrated below:
  - The development of new services, new forms of treatment and the trend towards specialisation will indicate a substantial widening of the scope of the radiography profession. On the diagnostic side, perhaps some of the more marked changes include the introduction of imaging modalities such as angiography, computerised tomography (CT), magnetic resonance imaging (MRI), ultrasound, radionuclide imaging and introduction of PET imaging. These changes have led not only to tangible benefits for the patients but have created also significant demands in the skill, expertise, ongoing training and education of Radiographers.
  - In radiotherapy, there have been many developments in the past decade which have had an impact on the work of therapeutic Radiographers. These changes include developments in conformal radiotherapy involving the increased use of radiation beams shaped with customised lead blocking, multi-leaf collimators and dynamic wedges. Electronic portal imaging, in vivo dosimetry and stereotactic radiosurgery are other examples of new techniques and procedures in radiotherapy in which therapeutic Radiographers have a significant involvement.
  - A shift towards diagnostic as well as therapeutic responsibilities for many Radiographers.
  - New technology both at the level of new procedures (many of which are inextricably linked to developments on the technological side) and in the broad area of information technology, is a very significant feature in development within the profession.
  - Radiographers anticipate increasing their contribution to development of health care strategies and outcomes, e.g. the Report of the Health Cardiovascular Strategy Group – Building Healthier Hearts, the National Cancer Strategy and Cancer Action Plan, the National Health Promotion Strategy 2000-2005, the Report of the Waiting List Review Group, etc.
  - As a result of the trend towards specialisation, Radiographers will require new skills and therefore participate in ongoing education and training throughout the course of their careers.

- Significant changes in the level of educational attainment necessary to enter the profession, most notably the shift from diploma to degree status.
- The development of national best practices and the adaptation of an accreditation system may bring about new protocols in diagnostic imaging and therapy departments. The culture within which Radiographers work may change.
- Developments in social, public and health policy, as well as developments in lifestyles and expectations, have increased demand on service providers.
- The application of the accountability legislation, the Health (Amendment No.3) Act 1996.

### *The Joint Working Party Report on Radiographers 1988 to 1994*

- The Joint Working Party Report on Radiographers 1988 to 1994, which is currently being implemented, is resulting in extensive changes to the radiography profession.

The Joint Working Party was appointed by the then Minister for Health, Dr. Rory O' Hanlon, on the 11th April 1988, in accordance with the Labour Court Recommendation, No. 11031 dated 31st March 1987.

The terms of reference assigned to the Joint Working Party by the Minister were as follows:

"In accordance with the terms of the Labour Court recommendation No. 11031 to establish and agree on standard criteria for determining Radiographer staffing levels in hospitals, in particular by examining point systems for staffing levels proposed by the parties."

In addition:

- Therapy Radiographers, the question of a higher grading.
- Superintendent Grade III, the criteria for establishment.
- The School of Radiography, including the question of study leave.
- Specialised Areas.

*(Appendix IV contains the Joint Working Party Report executive summary and recommendations pg 5-13)*



## *Radiography Service Review*

- There is a joint union and management Radiography Service Review currently taking place.

A Radiography Service Review also established under the Labour Relations Commissions proposals (Ref. CC97/590), is currently taking place and is addressing the following terms of reference:

Having regard to the terms of the Programme for Competitiveness and Work (PCW) Agreement between health service management and SIPTU, representing Radiographers, to conduct a comprehensive review of the Radiography Service –

- To examine the operation of protocols during hours of operation and to make recommendations where appropriate
- To take account of Patient need (including the ALARA principle)
- To examine the out of hours system
- With the objective to recommend optimum service quality

To investigate and recommend on the specific issues set out in the Labour Relations Commission's letter 23rd May 1997; a) Image Intensifier; b) time off in lieu of out of hours work; c) on-call and session rates; d) Sunday / Bank Holiday session and on-call rates, and Emergency Therapy rates.

## *Anomalies*

26. In accordance with the Joint Working Party Report, a Clinical Specialist post has been introduced and graded at Superintendent I level which has given rise to an anomaly. There are cases where both the Clinical Specialist and the Radiographer in Charge are graded at Superintendent I level. The Expert Group recommends that in these cases, the Radiographer in Charge be upgraded to a Superintendent II level, back dated accordingly to 1 July 1998.
27. The Expert Group recommends that the Radiography Services Manager's role should develop in a more structured way to allow the person to become more involved in the management of the service. The Radiography Services Managers, as heads of service, should continue to distance themselves from day-to-day work with clients and patients and focus on the broader issues outlined in the specification of their role. However, the Expert Group recognises that the clinical role will continue to feature in the work of managers. The Expert Group recognises the pay anomaly which arises from the fact that the Radiography Services Managers graded at Superintendent III do not participate in the out of hours on-call service.
28. The Expert Group notes that this issue is currently being addressed under the aegis of the Joint Working Party Report.

Career Structures

*Chapter 4*

## CAREER STRUCTURES

29. The area of Career Structures, included in the terms of reference for the Expert Group, is being addressed in the Joint Working Party Report on Radiographers, which is progressing concurrently with the Expert Group Report. Since the advent of the Joint Working Party Report, a revised career structure is being implemented with the introduction of the Clinical Specialist post.

### *Existing Career Structures*

30. Having given detailed consideration to the submissions made, and having regard to the approach adopted by the Expert Groups which have reported in relation to Therapy professions and Medical Laboratory Technicians and Technologists and also to the provisions of the Joint Working Party Report on Radiographers, the provisions of which are in the process of being implemented, it is considered that some further changes in the career pathway for Radiographers are warranted.
31. The career structure for Radiographers has been derived from various sources: the Joint Working Party, IPC and other reports and studies, as well as Labour Court recommendations. The basic structure currently consists of five tiers, Basic Grade, Senior Grade, Clinical Specialist and Superintendent I, Superintendent II, Radiography Services Manager (Superintendent III).

### *Current Promotion System*

32. The current grading structure for Radiography (with the exception of the Specialist areas) operates on a numbers based system. The number of senior posts in the hospital, or service is determined solely by reference to the number of Radiographers employed in that area. This system has operated since 1982, with little alteration except for the introduction of Clinical Specialist in June 1998, under the terms of the Joint Working Party Report.

## Recommended Changes to the Career Structure

### *Basic Grade*

33. This encompasses Basic Grade Radiographers and Graduate Level Radiation-therapists.
34. Having regard to matters such as the training and work requirements placed upon Radiographers, recruitment and retention within the profession and the positioning of the grade vis-a vis other health professionals the Expert Group recommends that the Basic Grade salary scale be adjusted as follows with effect from 1st April 2000;

19,069
19,708
20,249
20,809
21,362
21,930
22,495
23,059
23,654
24,279
24,904
25,404

### *Radiation Therapist*

35. The Expert Group has noted the proposals relating to the creation of the grade of Radiation Therapist being discussed between management and unions and recommends that an agreed basis for their implementation be reached as soon as possible.

### *Senior Grades*

36. Under the numbers based system, the number of Radiographers working in a given area, as alluded to above, limits the number of senior positions available.
37. In relation to the grade of Senior Radiographer the salary scale should be adjusted, as follows with effect from 1st April 2000;

25,009
25,562
26,130
26,695
27,259

38. The Expert Group recommends that where a Radiographer is working in a hospital or clinic single handed, the post should be graded at Senior level.
39. The Expert Group recognises that the senior post has been a significant developmental post, which provide staff with necessary experience. It is a post which should not be diminished.
40. The Expert Group recommends that the number of senior posts should at least remain at the number in place prior to the introduction of the Clinical Specialist posts.

### *Radiation Safety Officer*

41. The Expert Group recognises the importance of the post of Radiation Safety Officer and supports the view that those posts currently filled by a Basic Grade Radiographer, be upgraded to a Senior Grade. Discussions should commence to devise a job description for the post of Radiation Safety Officer by both parties at an early date.
42. The Expert Group also recommends that all major academic teaching hospitals have a designated Radiation Safety Officer post, and that this post be introduced immediately where not currently in place.

### *Dexa Scanning*

43. Where a Dexa Scanning\* is being introduced, the Expert Group recommends that the Radiographer in charge of this service should be initially graded at senior radiography level. However as the service develops this should be reviewed. (see Appendix II)

### *Specialist Areas*

44. Staff managing Specialist Areas are ranked as Clinical Specialist Radiographers due to the higher qualifications and/or experience and the increased responsibility for service delivery in the area.

\* Only where the dexa scanner is located in the radiography department.

45. The Expert Group has noted the progress made between both parties on the introduction of Clinical Specialist posts in the specialised areas of diagnostic imaging and therapy radiography. Having reviewed developments in this regard including the agreed job specification for this role some adjustment in the Clinical Specialist scale is warranted to maintain an incentive among the profession to pursue the additional professional qualifications, where these are required, for appointment and to undertake the clinical leadership role involved. The Expert Group recommends that salary scale attaching to Clinical Specialist posts should be adjusted as follows, with effect from 1st April 2000:

27,759

28,312

28,880

29,445

30,009

46. Diagnostic radiography has the following specialist areas, which require additional qualifications and/or experience:

- Angiography (Cardiac, Neuro and Vascular)
- Computerised Tomography (CT) - Diploma in CT Scanning
- Medical Ultrasound (General Vascular, Obs./Gynae.) – Diploma in Medical Ultrasound
- Nuclear Medicine (Radio Nuclide Imaging) – Diploma in Nuclear Medicine
- Magnetic Resonance Imaging (MRI)
- Mammography - Certificate of Competency in Mammography

Radiotherapy has a number of specialist areas including the following:

- Linear Accelerator
- Simulator
- Brachytherapy
- Cobalt
- CXT – DXT
- Mould Room

### *Digital Imaging Technology*

47. The Expert Group acknowledges that Digital Imaging Technology such as the PACS system, is now being introduced in the larger hospitals throughout the country. Where it is deemed appropriate, the Expert Group recommends that a Radiographer be seconded to introduce this programme and that the Radiographer should be graded as Clinical Specialist.

### *Radiography Services Manager*

48. The Expert Group recommends that two grades of Radiography Services Manager should exist within the service differentiated by the number of Radiographers employed by the hospital involved and the availability of clinical specialisms. This should replace the current system where an individual in charge of a diagnostic imaging or therapy radiography department could be at Superintendent I, II or III level.
49. It is considered that the aforementioned differentiation should be made on the basis of the size and scope of the Department involved and should be based on whether the Radiography Services Manager has responsibility for a Department of more than 25 Radiographers (whole time equivalents (WTE)) or a Department with 25 WTE Radiographers or less. In establishing such numbers regard should be had to staff working in smaller hospitals who may report to a Radiography Services Manager in a larger hospitals or to a Radiography Services Manager responsible for services in a hospital group. It is not considered that Senior Radiographers in stand alone units without any clinical specialist posts would be remunerated at either of the proposed Radiography Services Manager rates.
50. As specified elsewhere in the Report regard must be taken to the fact that Radiography Services Managers in fulfilling their managerial role are required to be available during the main operational daily hours and may not be in a position to undertake on-call/out of hours work. The salary scales recommended for the Radiography Services Manager role are as follows, with effect from 1st April 2000;

<b>RADIOGRAPHY SERVICE MANAGER 1 (25 staff or less)</b>	<b>RADIOGRAPHY SERVICE MANAGER 2 (more than 25 staff)</b>
<b>28,834</b>	<b>32,000</b>
<b>29,501</b>	<b>33,000</b>
<b>30,168</b>	<b>34,000</b>
<b>30,835</b>	<b>35,000</b>
<b>31,502</b>	<b>36,000</b>

51. The position should be known as Radiography Services Manager 1 (in the case of a position involving a department with 25 WTE radiography staff or less) and Radiography Services Manager 2 (in the case of a position involving a department with more than 25 WTE radiography staff).

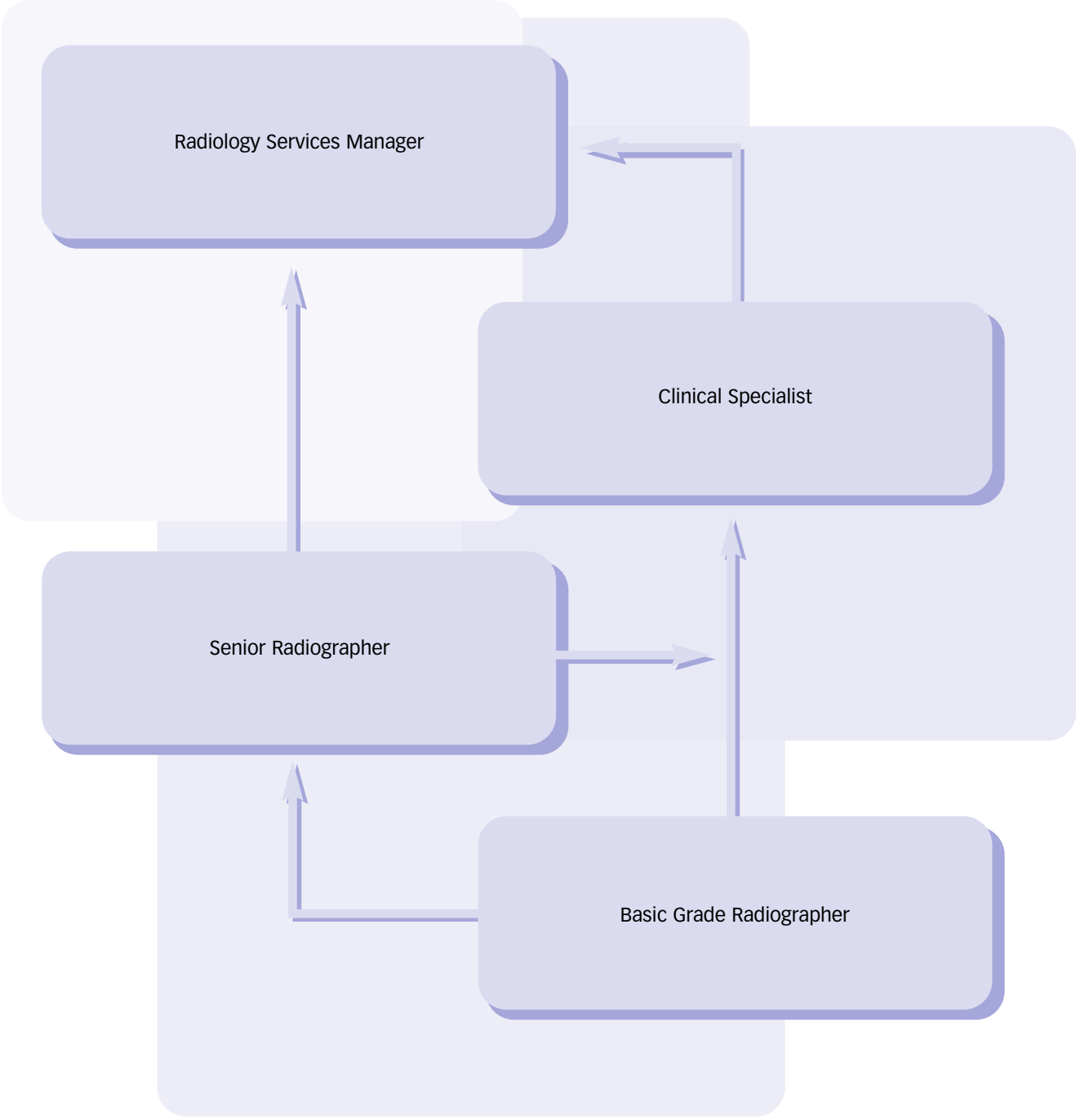
52. Within the existing structure there exist in larger hospital some posts at Superintendent 1 or Superintendent 2 level where the post holders are not in charge of the Department -they are not the Radiography Services Manager. Having regard to the provisions outlined above and to the recently created positions of Clinical Specialist in charge of specialised areas -which involve a semi-autonomous managerial role -further consideration is appropriate in relation to the actual job profile and the range of duties and responsibilities which may be appropriate to the existing positions at Superintendent 1 and 2 level. Both management and SIPTU should engage in early discussions to agree on the future role, duties and responsibilities of such individuals in the context of changed managerial structures. In the interim it is recommended that those existing Superintendent 1 Radiographers in this category should be remunerated on a personalised/red circled basis at the rate now recommended for the Clinical Specialist grade. The few individuals in this position at Superintendent 2 level should be remunerated on a personalised/red circled basis at the level recommended for the Radiography Services Manager 1.
53. Finally, given that what is involved is re-alignment in existing structures it is not appropriate that other pay or allowance arrangements would be adjusted in respect of these specific recommendations.

### *Research*

54. It is desirable that an element of research should form part of the personal and professional development of both diagnostic imaging and therapy Radiographers. The Expert Group recommends that developments in this area should be encouraged.



RECOMMENDED GRADING STRUCTURE DIAGRAMS FOR  
DIAGNOSTIC IMAGING & THERAPY RADIOGRAPHERS



Problems relating to  
Recruitment and  
Retention

## *Chapter 5*

## Problems Relating To Recruitment And Retention

56. Although the parties did not agree on the precise level of staffing required in the radiography service, there was general agreement that presently there is a shortage in staff numbers. Addressing this shortfall will unquestionably improve service delivery and enhance the health and social gain of clients. It is likely that investment at this stage will also bring overall savings for the health service as it will allow for much earlier intervention.
57. The 1994 Health Strategy 'Shaping a healthier future – a strategy for effective healthcare in the 1990s' recognised the staffing problem by acknowledging that the output of education and training establishments was not keeping pace with demand. The Strategy stated a commitment to examining the problem and increasing the numbers of training places, in co-operation with the education authorities and professional bodies concerned. The Expert Group recommends that this should be implemented as a matter of urgency.
58. The deficit between the number of Radiographers employed and the number required is caused by a variety of factors. A manpower planning strategy needs to be developed to determine the additional number of Radiographers required. The Expert Group is aware that the Department of Health and Children is already working on this issue, in relation to both diagnostic and therapeutic radiography and recommends that this work continues. It is essential that additional training places be provided as a matter of urgency.
59. In conjunction with the points identified, the Expert Group recommends the following changes in recruitment and employment practices to eliminate some of the disincentives:
  - In all cases newly recruited Radiographers be given full incremental credit for previous professional experience, at home and subject to certification, abroad.
  - Active measures should be taken to restrict the employment of staff on temporary contracts to a minimum period. Any post that has been filled on a temporary basis for more than 11 months should be examined with a view to establishing the reason the post cannot be filled on a permanent basis.
  - In any event, Radiographers employed on temporary contracts should be treated as permanent employees for the purposes of incremental progression and other appropriate benefits which may accrue to permanent staff.
  - For staff who seek them, fixed term contracts are an alternative way to deal with locum requirements.
  - In all cases, employee benefits should be available to part-time employees on a pro rata basis.
  - The Expert Group recommends that more flexible attendance arrangements be considered where appropriate.

- The Expert Group recommends that a Radiographer forms part of the interview board for the filling of radiography posts.
- The Expert Group recommends that employers should ensure that adequate back up facilities are available including investment in information technology and proper communication systems and the provision of support staff.

### *Return to the Service*

60. It is possible that there are a number of Radiographers who have for one reason or another retired or resigned but who would be willing to return to work given the availability of refresher courses. The Expert Group recommends that initiatives be established to facilitate the return of such Radiographers to the health services and that immediate action be taken to establish radiography refresher courses. These courses could be modelled on the very successful 'back to nursing' and 'back to midwifery' courses.

### *Smaller radiography departments*

61. The Expert Group understands that there are difficulties regarding recruitment of staff to smaller radiography departments. This is due to a number of factors. The Expert Group recommends one of the following two possible solutions to this problem should be considered:
- the employing authority employ a small number of Radiographers whose task would be to act as locums generally throughout their service area/health board area, but for whom the needs of the smaller radiography departments would have priority, and/or
  - constitute the smaller radiography departments as satellites of larger units. The implications of this proposal for all staff involved relating to transferability and its possible impact on earnings and other employment conditions would require discussion and negotiation.
62. In order to reduce the isolation of small radiography departments the Expert Group recommends availing of advances in technology. Teleconferencing, internet access and video linkage could be used to communicate with small radiography departments and promote wider discussion of clinical and scientific issues. The formulation of firm proposals along these lines would, of course, require the input of information technology professionals to advise on their feasibility.



Training and Education  
Requirements

## *Chapter 6*

## Training And Education Requirements

63. The Expert Group discussed the limited number of student places on radiography degree courses. The points required for entry to the profession are extremely high because the demand for undergraduate places far exceeds supply. To avoid a growing shortage of suitably qualified entrants to the profession, priority must be given to the extension of educational facilities.
64. The Expert Group recommends that to meet future requirements, the number of undergraduate places be increased. The Expert Group also recommends that discussions take place between academics and professionals in this regard.

### *Manpower Planning*

65. There is agreement that, at present, the general shortage of radiography staff is due in some measure to the small number of undergraduate places. The Expert Group accepts that there is no simple solution to this problem. It notes the employers have suggested that a manpower planning exercise be undertaken. However the Expert Group is also aware that much work has been undertaken by the Department of Health and Children, the Higher Education Authority, the Department of Education and Science and the colleges in trying to plan for the additional training places needed. The Expert Group readily endorses this initial and important step, and recommends that adequate funding be provided to allow these training places to be put in place. If, in the future, the parties agree that a further manpower planning exercise is required, the Expert Group recommends that the exercise be conducted nationally.

### *Recognition of Qualifications*

66. Problems have arisen regarding the recognition of qualifications obtained in other jurisdictions (specifically Northern Ireland and Britain). The Expert Group is aware that the Department of Health and Children are currently engaged in a process to streamline that verification procedure.

### *Education Structure*

67. The Expert Group visited the Netherlands in March 2000, to examine the organisation and delivery of radiography services in another country and to compare and contrast the elements of the radiography service relevant to the Expert Group's terms of reference. The Expert Group visited the VU Ziekenhuis (Free University Academic Hospital) and the Antoni van Leeuwenhoek Hospital, where it met practitioners and management.
68. In the Netherlands, Radiographers can be trained for both diagnostic imaging and therapeutic radiography during the degree course. The Expert Group feels that it would be of benefit to both branches of the profession in Ireland if a similar initial training course were introduced. The Expert Group feels that the training course system in the Netherlands is meritorious and recommends that both management and staff examine the course structure.

### *Clinical Tutor*

69. In four teaching hospitals in Dublin, the Mater Misericordiae Hospital, Beaumont Hospital, St Luke's Hospital, Rathgar, and St Vincent's University Hospital, Elm Park, the radiography service currently has clinical tutor posts responsible for organisational and supervisory functions in relation to students. The Expert Group recommends that a similar clinical tutor post be considered for the other major academic teaching hospitals (i.e. Cork University Hospital, St James's Hospital, Dublin, University College Hospital, Galway and the Adelaide & Meath Hospital incorporating the National Children's Hospital, Tallaght).

### *Management Training*

70. The Expert Group understands that as part of their primary degree, Radiographers undertake a management module. The Expert Group recommends that additional management training should be given to staff who are expected to manage a diagnostic imaging or therapy department or a division. This training should be given in consultation with the Office for Health Management.

### *Training Budget*

71. The personal and professional development of Radiographers is vital to maintain a high quality of service. The Expert Group recommends that a specific annual training budget should be agreed for Radiographers and be devolved to the head of the radiography service and to the Joint Radiology Services Management Committee to identify and arrange for appropriate training and development programmes (see also paragraph 81). The Expert Group recommends that where appropriate a system be introduced to provide guidelines on priority areas for training budget spending at local level and to indicate the level of spending required.
72. Whilst local priorities should influence utilisation of the budget, some effort should be made to make payment of travel, accommodation and related training expenses more equitable.

### *Post Graduate Courses*

73. Post graduate courses currently run by the School of Diagnostic Imaging are delivered in a manner which is expensive in terms of both time and financial resources. The Expert Group is of the view that courses must be delivered in a different manner. The Expert Group also recommends that the radiography schools provide educational support to locations outside Dublin. The Expert Group therefore recommends that a number of alternative educational formats be considered by the parties e.g. modular systems, multi-locational delivery, distance learning. In addition tele-conferencing and video links are now available in the health service throughout the country and could be used to access courses. As much as possible, the educational formats should be organised in a family-friendly manner.





Management Structure  
and Development

***Chapter 7***

## Management Structure And Development

74. The accountability legislation (Health (Amendment No.3) Act, 1996) proposed that the Manager's role develop in a more structured way to allow him/her to become more involved in the management of the service. This means that Radiography Services Managers, or the Radiographers in Charge, may have to distance themselves from day to day work including on-call and focus on a broader set of issues as outlined below:
- Organisation of staff to provide for an efficiently and effectively run department, induction of new staff, staff assessment, student training including education and evaluation.
  - Preparation of service plans, including objectives as well as targets indicating that the objectives are being met. Measures for evaluating the service plan and outcomes need to be developed including review of consumer feedback.
  - To promote Quality Assurance and prepare for an expanded Accreditation system as clinical standards based on national, and where appropriate international, best practice need to be developed.
  - Identification of appropriate skill mix to give optimum service to the client/patient in line with the health strategy, both in terms of health gain and social gain.
75. For their part, employers are conscious of the need to continually implement, as a matter of general policy, the accountability legislation (Health (Amendment No. 3) Act 1996).
76. The Expert Group recognises from the written submissions and meetings with management and staff representatives that there is agreement on the need for a planned personal and management development programme for the radiography profession. This is particularly true for the Radiography Service Manager and management grades.
77. The Expert Group endorses the view expressed in the 1997 'Management Development Strategy for Health and Personal Social Services'. In light of this, the Expert Group recommends that the health service employers in conjunction with SIPTU, commission a survey to identify the competencies required for management positions within the radiography profession. Once identified, these competencies should be used to recruit, selection and develop managers.
78. The Expert Group is also aware of a programme developed by the Office for Health Management directed at first-time managers. The Expert Group recommends that employers ensure that appropriate personnel from radiography participate in this or an equivalent programme.

79. The Expert Group recommends that the Office for Health Management pilot personal development planning exercises with the radiography profession to test out an approach to linking personal development needs to organisational objectives and to help members of the radiography service prepare realistic and achievable plans to meet those needs with a view to all health service employers introducing this developmental approach for all grades in the radiography profession.

### *Clinicians in management initiative*

80. Consistent with the “Clinicians in Management” initiative, it is recognised that the Radiography Services Manager should be a Radiographer with responsibility for the development of plans for the delivery of services, interaction with other professionals, and pay and non-pay issues.

### *Joint Radiology Services Management Committee*

81. In conjunction with the “Clinicians in Management” initiative, the Expert Group recommends establishing a Joint Radiology Services Management Committee. The functions of this Joint Radiology Services Management Committee would involve issues relating to a more efficient and effective delivery of services.
82. The Expert Group recommends that the Radiography Services Manager or the Radiographer in Charge should report to hospital management on general issues pertaining to operational matters and to the Radiologist on clinical issues.

### *Skill mix*

83. The Expert Group recommends that there should be an appropriate mix of support staff within diagnostic imaging and therapy departments, including Darkroom Technicians, Radiography Assistants, Porters, Attendants and Clerical / Administrative staff.
84. The Expert Group agrees that there is a useful role for Radiography Assistants. The role of the Radiography Assistant needs to be clearly defined and should not impinge on that of the Radiographer but add to the development of skill mix. The utilisation of Radiography Assistants is intended to provide practical support for Radiographers as well as complement and thereby expand the care provided to patients rather than serve as a substitute for existing radiography grades.
85. In house training programmes should be established for Radiography Assistants in order to provide them with the necessary skills for the job.
86. The Expert Group accordingly recommends that a grade of Radiography Assistant be introduced where appropriate. The Radiography Assistant should report to the Radiography Services Manager.

### *Health Professionals Policy Unit*

87. The Expert Group recommends increasing the input of Radiographers into the wider planning of health services. The Expert Group recommends the strong involvement of Radiographers in a Unit within the Department of Health and Children, which would advise the Minister, health and educational authorities and others in the sector on staffing levels and development of services.

### *Clinical Governance*

88. The management structure and development of staff in radiography departments must be viewed with respect to the concept of clinical governance. Clinical governance has been defined as "A framework through which organisations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish"\*. Clinical governance refers to the responsibility of Health Agencies to ensure that the services provided directly by them or on their behalf, are in accordance with the highest standards of care expected in the best equivalent settings. Clinical governance provides staff and management with the opportunity to optimise service quality while investing in initiatives which will support staff in the pursuit of excellence.

\* Donaldson & Scally, cited in 'Clinical Governance'; Office for Health management; Issue 4, August 2000.

Development Plans for  
the Delivery of Services

## ***Chapter 8***

## Development Plans For The Delivery Of Services

89. In addition to providing reports, Radiology and Radiotherapy provide consultative and advisory services to clinicians and general practitioners. Diagnostic imaging services provide a foundation for the differential diagnosis of disease conditions in all clinical specialties. The Department contributes to establishing the diagnosis, aids in guiding treatment, provides direct treatment to patients in certain disease conditions, and assists in monitoring the patient's progress. Due to the rapid changes that have taken place in science, technology and clinical practice it is imperative that Radiographers respond to these changes in a proper and efficient manner.

### *Out of hours services*

90. One of the key changes for the health service identified in the Programme for Prosperity and Fairness is extended hours of service to the public. Health, safety and welfare at work for radiography staff who work long hours (particularly those working in Accident and Emergency Departments) was recognised as a concern. It is understood that a system of revised attendance regimes is being considered by the Radiography Service Review Group.
91. The Expert Group recommends that national best practice protocols for the demand of out of hour services should be developed.

### *Demand Protocols*

92. The Expert Group considered the Royal College of Radiologists, London, 4th Edition Guidelines for Doctors, Making the best use of a Department of Clinical Radiography (see Appendix VI). This booklet has been prepared to improve clinical practice and to help referring clinicians make the best use of a Department of Clinical Radiography. The Expert Group recognises the need for guidelines in relation to requesting practices and therefore recommends that national best practice protocols be established.

### *Information Technology in Radiography*

93. Improved integrated information technology systems will allow radiography to contribute to the provision of a high standard of patient care by providing clinicians with a wider range of information more directly and rapidly. These information technology systems will also advance greater communication and consultation between clinicians, radiography and other staff groups.
94. The Expert Group recommends appropriate investment to support developments in information technology including tele-radiology (PACS), Intra/Internet networks, teleconferencing, remote consultation.

95. The Expert Group also recommends that Radiography staff be included in the discussions with information technology staff and other involved groups regarding the evolution of these initiatives.

### *Partnership*

96. The Programme for Prosperity and Fairness has agreed the need for inclusion of all staff in the development of service plans. The Health Services National Partnership is now being developed with its mission to provide for a new active relationship in managing change characterised by employee participation and consultation, the development of joint objectives, cooperation and trust and the delivery of patient-focused quality health services. With this in mind the Expert Group recommends that consideration should be given to the establishment of a Partnership Group to cover all disciplines involved in radiography to develop medium and long term development plans for the service.

### *National Standards*

97. The Expert Group is aware of developments in the area of the national service planning initiative and the national group on performance indicators as part of the framework for standards and recommends that Radiographers be kept fully informed of developments in these areas.
98. To insure that diagnostic imaging and therapy departments continue to benefit from the many new systems and steps should be taken to increase operating efficiency, Hospital Managers, Radiography Services Managers, Consultant Radiologists, Radiation Oncologists and Physicians should periodically review procedures to insure that resources are applied in the most effective manner.
99. Newly appointed consultants also place their own specific demands on services. The impact of such appointments on radiography service workload needs to be considered prior to the appointment.
100. In anticipation of accreditation, all diagnostic imaging and therapy departments should have in place written policies to guide and inform the staff about standards for patient care and safety, accepted radiography practices, patient informed consent and the ethical principles which ensure that patients receive safe and appropriate care.





Interaction with other  
Healthcare Disciplines

## *Chapter 9*

## INTERACTION WITH OTHER HEALTHCARE DISCIPLINES

101. The Radiographers submissions described the range of other professions and disciplines with which they work on a regular basis - Consultant Radiologists, Radiation Oncologists, Non Consultant Hospital Doctors (NCHDs), General Practitioners, Darkroom Technicians, Nurses, Radiography Assistants, Porters, Attendants, Clerical / Administrative staff, Management, Information Technology staff and Physicists. However, it seems clear that changes in clinical practice and the extension of care will give rise to the composition of team work procedures. Whilst it is right that employers should expect the co-operation of Radiographers in the formation and operation of such teams, the Expert Group recommends that they be established after full consultation with the Radiographers.
102. The Expert Group recognises that Radiographers are inextricably linked with other health care professionals and that the satisfactory development of the profession will require the involvement of other health care professionals. The Expert Group recommends that these and other initiatives relating to the development of the radiography profession should now commence.

Any other Issues which  
the Group considers  
Relevant to its Task.

## ***Chapter 10***

## ANY OTHER ISSUES WHICH THE GROUP CONSIDERS RELEVANT TO ITS TASK

### *State Registration*

103. The radiography submissions sought the introduction of legislation providing for the regulation of the profession.
104. The main purpose of statutory registration is to protect the public, and to provide a structure for the appraisal and approval of training courses, examination, qualifications and institutions, thus ensuring the proper development of education and training for certain health professions.
105. The main functions of a Registration Body would relate to:
- The maintenance of a register of the radiography profession.
  - The control of education and training of students and post-registration training of Radiographers.
  - The operation of fitness to practice procedures.
  - The administration and implementation of the EU Directive on the Mutual Recognition of Third Level Qualifications in EU member states.
106. The Expert Group recommends the introduction of legislation which will provide a framework for the regulation of health professions, including radiography.

It is understood that the Department of Health and Children has progressed this issue and that a proposal for legislation was produced in October 2000 in partnership with the professional bodies. This proposal is now under consideration by the wide membership of the profession. The Expert Group endorses and recommends this approach.

## *Accreditation*

107. Accreditation is a self-assessment process involving measurement of organisations' performance against a set of predetermined standards. The objective is to encourage Health Agencies to focus on ways to continuously improve healthcare and the delivery system. A number of the large, major academic teaching hospitals (MATHs) are currently involved in the accreditation process. These hospitals are also the Group 1 case-mix participants:

- St James's Hospital, Dublin
- Mater Misericordiae Hospital, Dublin
- St Vincent's University Hospital, Elm Park
- James Connolly Memorial Hospital
- Adelaide & Meath Hospital, incorporating the National Children's Hospital
- Cork University Hospital
- Beaumont Hospital
- University College Hospital, Galway

The Expert Group recommends that Radiographers become fully involved in the accreditation programme.\*

*\* Information may be obtained from the Accreditation Manager / Co-ordinator in your hospital or from the Accreditation Implementation Team, c/o St James's Hospital, James's Street, Dublin 8; Telephone 410 3372, 410 3373 or 410 3374; [www.accredithealth-ireland.com](http://www.accredithealth-ireland.com).*



Report of the  
Expert Group on  
Radiography  
Grades

***Appendix***



# Definitions

## Appendix I

### **Interventional Radiology (Including Angiography and Minimal Access Therapy)**

This area of radiology is currently undergoing rapid expansion. Examples of interventional radiology innovations include:

- Most abdominal abscesses are now treated by percutaneous drainage procedures using radiological guidance
- Percutaneous discectomy for lumbar disc herniation
- Percutaneous insertion of grafts for abdominal aortic aneurysms
- Various techniques to treat inoperable hepatic lesions, e.g. laser ablation under imaging control.

### **Computerised Tomography (CT)**

Combined computer and X-Ray technology allows cross-sectional and 3D images to be obtained. Advances such as spiral CT have opened up new diagnostic opportunities.

- CT remains a simple method of staging many malignant diseases and in monitoring response to therapy.
- CT provides pre-operative information about complex masses and is used for post-operative complications
- CT allows accurate guidance for drainage procedures and biopsies
- CT remains the optimal investigation for many chest and abdomen clinical problems, including such modalities as virtual colonoscopies.

### **Magnetic Resonance Imaging (MRI)**

MRI is the newest imaging modalities. It relies on the magnetisation of hydrogen nuclei within the body as a means of producing highly detailed images of any body part. The role of MRI continues to expand.

Recent advances include:

- breast and cardiac MRI,
- angiographic and interventional techniques
- functional MRI of the brain.

### **Ultrasound**

Uses high frequency sound waves to produce sectional images of different body tissues. Ultrasound is non-invasive, the patient is not exposed to radiation and thus it is an excellent initial investigation for a wide range of clinical referrals including monitoring the foetus in the womb. Ultrasound is often recommended in place of more expensive studies such as Computerised Tomography.

### **Nuclear Medicine - Radionuclide Imaging**

Isotopes which emit radiation are administered to the patient. A gamma camera detects the radioactivity emitted and traces its distribution in the body. Diagnostic evaluations of the anatomical and/or physiological status of the target organ are possible from the final image. The role of Nuclear Medicine is continuing to expand to include such modalities as PET scanning (see Appendix III).

### **PACS**

PACS = Picture Archiving Communication System, i.e. the system of storing images digitally.

Patient identification is the sole responsibility of the Radiographer.

It is the Radiographer that must ensure that

- (a) The correct patient is being examined
- (b) The appropriate patient identification is marked on the film.

In the case of digital images where the images are subsequently archived and no film is ever produced it is the responsibility of the Radiographer to ensure that correct identification procedures have been employed in the first instance so that each image is correctly identified.

Most PACS systems require the Radiographer to carry out Quality Control on each image before sending that image to the Archive. It is during this Quality Control process that the image identification must be checked and verified. Once the image has been archived it is the responsibility of the relevant information technology person / information technology vendor to ensure that any patient demographics sent with the image remain matched with that image and cannot be deleted or overwritten. Any subsequent changes to the patient identification must be saved as additional information with that image.

## *Radiotherapy*

Radiotherapy treatment comprises of 2 distinct modes of treatment delivery:

- External beam Radiation and
- Brachytherapy.

External beam consists of a well defined beam of ionising radiation from a machine source, this is primarily high energy X-rays but may also be a beam of electrons. In the case of Cobalt treatments gamma rays are involved.

The high energy X-ray beams are in the Megavoltage range these penetrate through the tissue for treatment and interact with the diseased tumour volume with the view to destroying this tissue, the normal tissue will have the ability to recover. Some of the therapies undertaken are post operative and prophylactic to prevent recurrence at the operation site. Palliative treatment courses will also be treated in a similar manner but to a lower tumour dose.

Electron therapies are delivered in a similar fashion but are a more superficial treatment. Due to the variables in site, tumour type, and beam type all these courses need to be planned and verified to a very high level of accuracy and checked independently, there are therefore very strict protocols in place for all stages of the process.

Brachytherapy consists of either internal or external treatment by a live radiation source that is in direct contact with the tissue to be treated. These can be Beta or Gamma rays, this may be carried out with external beam therapy to provide a combined course. Nuclear Medicine involving the use of isotopes is also used for therapeutic purposes.

## *Appendix II*

### **Dexa Scanning**

A DEXA scanner is a multiple detector, fan beam, dual energy, x-ray densitometer. It is used to measure the Bone Mineral Content (BMC) in grams and the BMD in grams per cm<sup>2</sup>. The purpose of this appendix is to consider the technologies and responsibilities associated with Dual-Energy X-Ray Absorptiometry, or DEXA scanning, and to outline the role and duties of a DEXA Clinical Specialist.

Many researchers believe that DEXA measurements at one site are strongly predictive of the likelihood of fracture throughout the entire body, which also assists in the investigation of osteoporosis.

## *Results Analysis*

The Radiographer will have responsibility for ensuring that the images are produced to the standard required by the Consultant Radiologist and Consultant Rheumatologist, for reporting and that all information necessary for reporting is provided. Areas of expertise needed to ensure that this quality is achieved would include:

- Efficient archiving of images
- Transmission of scan results across the hospital network
- Communicating with Consultant Radiologists, Registrars and other departments such as Rheumatology
- Liaising with various departments throughout the hospital
- Be a good communicator
- Prepare training programmes and train new staff

## *Appendix III*

### **Positron Emission Tomography (PET)**

Positron Emission Tomography (PET) is a highly specialised form of Nuclear Medicine imaging made possible by the unique fate of positrons within the body. PET imaging is no longer a research tool - it has proved itself to be a front-line clinical imaging option. This is borne out in particular in the fields of oncology, cardiology and neurology. PET differs from conventional nuclear medicine imaging.

PET imaging can be performed in one of two ways. The first method is to use a dedicated PET camera that, for all intents and purposes, closely resembles a conventional CT scanner. More recently, however, equipment companies have developed a "hybrid" scanner which is capable of imaging, not only positron tracers, but also conventional single photon radiopharmaceuticals. This obviously increases the clinical utility of such an imaging device as dual photon examinations and single photon studies can be accommodated on the same device depending on the clinical requirements of the department at the time.

The duties of a Radiographer involved in the delivery of the PET service would include:

- Co-ordination of delivery of radiopharmaceuticals to coincide with patient presentation
- Compliance and familiarity with radiation protection procedures both local and national
- Assisting with the correct administration of radiopharmaceuticals
- Positive patient preparation and instruction
- Clinical imaging of the patient
- Producing high quality diagnostic images for interpretation
- Post-processing of acquired data
- On-going in-house training of other staff
- Implementation of quality assurance measures
- Maintaining a quality service within budgetary allocation

## *Appendix IV*

### **Overview of the Joint Working Party Report**

#### EXECUTIVE SUMMARY AND RECOMMENDATIONS

##### CHAPTER 1:

- Para 1.1 The Working Party submitted two interim reports to the Minister, the first in March, 1989 and the second in July, 1990.
- Para 1.3 The number of radiographers employed in the health services increased from 372 in 1986 to 637 in 1992.
- Para 1.4 A Joint Study Group, including two persons appointed by the Faculty of Radiology, was established to examine Workload Measurement systems and to make recommendations. On a recommendation made by the Study Group, the Irish Productivity Centre was employed in the design of a Workload Measurement system.
- Para 1.6 The Working Party found the managerial role of the radiographer in charge to be ill defined and prepared a draft job description for the office of chief radiographer which is contained in this paragraph.
- Para 1.8 A necessary prerequisite for the installation of a Workload Measurement system should be an effective management system which clearly establishes responsibilities and accountabilities.
- Para 1.9 This paragraph contains the details of the Consultancy Brief prepared by the Working Party for the guidance of the Irish Productivity Centre in connection with its examination of a proposed Workload Measurement system and the Specialised areas of diagnostic imaging and therapy radiography.
- Para 1.11 This paragraph deals with the Report of the Irish Productivity Centre, extracts from which are published as appendices of chapters one and three herein.
- Para 2.11 The Working Party recommend that no immediate steps be taken to implement a Workload Measurement system on a national basis and instead to initiate a pilot scheme in one or two hospitals where the appropriate management levels are willing to do so and where information systems are sufficiently computerised. Any decision to further extend the system should await a full review of the experience gained, including the value of the contribution it might make in the more effective management of resources.
- Para 2.12 Given the constant increase in demand for diagnostic imaging services in hospitals, in a situation of absolute scarcity of qualified radiography staff and of other resources, the Working Party recommend a more radical approach based upon the maximum utilisation of all resources, human, plant and premises within an enhanced and participative management system, such as a Quality Assurance Scheme.
- Para 2.14 Existing staffing problems appear to the Working Party as capable of resolution by managements provided the necessary delegations are in place and a common policy exists as to their resolution. Given that a scarcity of resources, financial and qualified personnel, may continue into the future, the involvement of the staff side in the development of policy would be critical for its success.
- Para 2.15 The Working Party consider that means must be established to deal promptly with local manpower problems and that in situations where productivity levels are satisfactory and the demand side cannot be cut back that the solution of an increase in staffing levels must be available. In other situations, an Organisation and Method audit should be resorted to, to consider and recommend changes in work organisation, the layout the premises etc., including the extent to which clerical and administrative procedures can be delegated to clerical assistants in order to free up radiographers' time.
- Para 2.17 The Working Party recommend that the problem of staffing levels be addressed in the proposed Framework Agreement outlined in paragraphs 3.19 and 3.21 of the Report.

## CHAPTER 3

- Para 3.4 This paragraph contains the findings of a Study Group set up in 1977, the recommendations of which were given effect to in Circular letter S202/1 of Nollaig 1982. It was noted by the Working Party that the Group recommended that “where it could be shown that a radiographer was engaged in individual specialised work, demanding a high degree of responsibility and technical skill, such a person could be regarded a senior radiographer.”
- Para 3.7 The Working Party recommend the introduction of a job description system along lines set out in the Report, including the I.P.C. Report (see Appendices A and B of Chapter Three, pages 113 and 116 respectively).
- Para 3.8 The Working Party recommend the introduction of a five level grading structure incorporating the existing basic grade into level one, senior into level two, superintendent I into level three, Superintendent II into level four and Superintendent III into level five.
- Para 3.10 The Working Party have identified the following as the Specialised areas in diagnostic imaging radiography:
- Angiography, Cardiac, Neuro and Vascular,
  - Computerised Tomography or C.A.T. Scan,
  - Magnetic Resonance Imaging,
  - Radio Nuclide Imaging,
  - Medical Ultrasound, General, Obs./ Gynae and Vascular
  - Radiation Safety Officer
- The Working Party also found that the problem of the Specialised areas related almost exclusively to the nine major hospitals each employing 15 or more radiographers.
- Para 3.12 The Working Party found that the job characteristics of the Specialised areas to be a combination of higher qualification and increased responsibility and that the grading structure should reflect these characteristics.
- Para 3.17 This paragraph summarises the findings and recommendations of the I.P.C. Consultants in respect of the six specialised areas.
- Para 3.18 Having considered the foregoing recommendations, the Working Party recommend that radiographers in charge in the Specialised areas be regarded at the proposed level three set out in paragraph 3.8 herein.
- Para 3.19/ 3.21 These paragraphs deal with the proposed Framework Agreement which the Working Party recommend should be arrived at by negotiations between the parties through the medium of the Local Government Staff Negotiations Board and the Irish Business and Employers’ Confederation, the implementation of the Agreement to be proceeded with through individual hospital managements in accordance with a procedure outlined in paragraph 3.21
- Para 3.23 The Working Party found that the general conditions of employment of therapy radiographers have never been the subject of separate examination and review; instead the category has heretofore been broad banded with the diagnostic imaging side.
- Para 3.27 The Working Party have noted the emergence of two schools, one for diagnostic imaging radiographers in U.C.D. and another for therapy radiographers in the University of Dublin and raise the question why this separation took place.
- Para 3.28 The Working Party noted in this paragraph that the I.P.C. found that the “therapy radiographer job is the equivalent of the basic job in the specialised diagnostic areas in terms of technical and patient care requirements and training needed to reach competence”. The Working Party regard this to be a higher qualification than that required for entry to the basic grade of diagnostic imaging radiographer.

- Para 3.30 The Working Party found the general conclusions and recommendations of the I.P.C. in respect of the Specialised areas have a validity in their general application to the therapy radiography service.
- Para 3.31 This paragraph reports on the therapy radiography services provided by St Luke's and St Anne's hospitals in Dublin and the Regional Hospital in Cork with details of staffing and equipment in use; the Working Party note that all these hospitals are severely understaffed and that in these circumstances pay and grading policies may be of crucial importance in ensuring an adequate supply of suitably qualified personnel.
- Para 3.34 This paragraph contains specific recommendations by the Working Party regarding the staff situation in Cork Regional Hospital.
- Para 3.35 This paragraph contains specific recommendations by the Working Party regarding the staffing situation in St Luke's and St Anne's Hospital.
- Para 3.36 The Working Party recommend that a level three radiographer be employed as the radiographer in charge of each mega-voltage treatment unit in active and continuous use, other than units which have been decommissioned or used as back-up or for research purposes.
- Para 3.38 The Working Party found that a case may exist for the payment of the special allowance, paid to postgraduates in the Specialised areas, to therapy radiographers upon satisfactory completion of their probationary period.
- Para 3.40 The Working Party recommend that the basic grade therapy radiographer i.e. level one be advanced to level two after a period of satisfactory service of not less than three years, on the understanding that the individuals concerned are prepared to accept assignment to any duties within the level two range as may be decided by the chief therapy radiographer.
- Para 3.41 The Working Party recommend that the implementation of the various recommendations contained in their Report regarding therapy radiographers be proceeded with within the proposed Framework Agreement referred to in paragraphs 3.18/3.21 herein. Because of the specific circumstances obtaining in respect of the therapy radiography services, it is envisaged that some changes in existing work organisation and practices may be necessary and that these should be provided for in negotiations at individual hospital level.
- Para 3.42 The Working Party recommend that the title of the post of radiographer (therapy) be changed to that of radiation-therapist in order to more accurately describe the work done and that the declared qualifications and particulars of office be amended accordingly. The Working Party also recommend draft job descriptions, prepared by the Working Party, and contained in Appendix B of Chapter Three.

#### CHAPTER 4

- Para 4.4 The Working Party noted that there is at present a world shortage of qualified therapy radiographers.
- Para 4.5 The Working Party noted that the current educational and training arrangement for radiographers, diagnostic and therapy, provide for four year courses of degree standard.
- Para 4.7 The Working Party recommend that the student intake in the School of Therapeutic Radiography be increased to at least twelve per annum commencing in the present year.
- Para 4.9 The Working Party adverted to the economic and other advantages that would accrue from both categories of radiographers sharing the one university campus.
- Para 4.10 The Working Party recommend that the education and training of all categories of radiographers come under education policy and that the Minister for Health cease to have any responsibility in respect of this activity.

- Para 4.12 The Working Party recommend that the curriculum for the Baccalaureate in diagnostic imaging be reviewed in order to ensure that the theoretical subjects provided for in the fourth year be sufficient to enable qualified students to subsequently undergo post-graduate courses through an approved in-service training programme without the necessity to attend a centralised course in Dublin.
- Para 4.13 Where the exigencies of the service so require, hospital managements should be free to second selected persons to undergo post-graduate courses in the School without the necessity for the student to meet unreasonable costs or engage in excessive working hours.
- Para 4.15 At the option of the staff side, the question of in-service education and training should be raised within the negotiations with hospital managements under the proposed Framework Agreement.

## *Appendix V*

### **EXECUTIVE SUMMARY OF IRISH PRODUCTIVITY CENTRE REPORT**

- 1.1 The specialised areas of Diagnostic Radiography were studied to establish if the duties and responsibilities were adequately reflected in the existing grading structure.
- 1.2 The specialized areas identified in the diagnostic area were:
- Angiography – Neuro – Vascular – Cardiac
  - Medical Ultrasound
  - Nuclear Medicine – Radio Nuclide Imaging
  - Mammography
  - Magnetic Resonance Imaging
- 1.3 The grading of Therapy Radiography was also examined as was the position of Radiation Safety Officer.
- 1.4 Job Descriptions were prepared for positions within the Specialised areas of the Imaging Departments to assist with the assessment of the Grading issues. However, it was found that variations in local organisation and practice limit the scope of comparison across the various hospitals. Guide Lines are set out for completing job descriptions.
- 1.5 The principal grading criteria identified as distinguishing the level of jobs within imaging departments are:
- Education – particularly recognised additional qualification in particular specialised process.
  - Experience – covering adequate periods of time to ensure competence with the widest range of applications.
  - Responsibilities: Administrative/ Supervisory Responsibilities. Responsibilities for care and procurement of important supplies. Responsibilities for reporting on procedures.
- 1.6 The main grading issues were:
- (i) The suitability of the existing grading structure which is based on numbers only.
  - (ii) The adequacy of the number of grades.
  - (iii) The current grading system based only on numbers does not adequately accommodate enhanced duties and responsibilities.

It is recommended that specified full time positions in specialised areas be designated for suitably qualified and experienced staff which would carry the appropriate grade. These designated positions would be filled by promotion when vacant. The number of such positions would be determined by each hospital based on the size and scope of the department making provision for training and development requirements for other staff.

(iv) The existing five grades have three grades which by their current designation imply that the top three grades cover only Chief Radiographer or Asst/Deputy chief Radiographer positions.

To accommodate the upgrading of positions in the specialised areas either an additional grade is required or the lowest superintendent Grade should be made available to positions based on technical expertise and limited administrative/supervisory duties.

- 1.7 Therapy Radiography should be recognized as a separate profession and an adequate provision of senior grade positions allowed to provide for cover in the operation of various treatment procedures.

The proposed developments in the education and training of Therapy Radiographers should be monitored as the proposed changes will extend the range of duties skills and responsibilities in such a way as to merit regarding of the basic therapy radiography job.

- 1.8 Radiation Safety Officer's duties when carried out by Radiographers would require that the holder of the position should be at least at Senior Grade.



## Appendix VI

### Why are guidelines needed?

Royal College of Radiologists, 4th Edition Guidelines for Doctors, Making the best use of a Department of Clinical Radiography; London, 1998.

A useful investigation is one in which the result – positive or negative – will alter management or add confidence to the clinician's diagnosis. A significant number of radiological investigations do not fulfil these aims. Unnecessary investigations increase waiting time, waste limited resources, lower standards and may add unnecessarily to patient irradiation. Apart from the medico-legal issue, which is discussed further below, the chief causes of the wasteful use of radiology are:

1. Investigation when results are unlikely to affect patient management: because the anticipated 'positive' finding is usually irrelevant, e.g. degenerative spinal disease (as 'normal' as grey hairs from early middle age) or because a positive finding is so unlikely.  
Do I need it?
2. Investigating too often: i.e. before the disease could have progressed or resolved or before the results could influence treatment. Do I need it now?
3. Repeating investigations which have already been done: e.g. at another hospital, in an Outpatient Department, or in Accident & Emergency.  
  
Has it been done already? Every attempt should be made to get previous films.  
Transfer of digital data through electronic links may assist in this respect in future years.
4. Failing to provide appropriate clinical information and questions that the radiological investigation should answer. Deficiencies here may lead to the wrong technique being used (e.g. the omission of an essential view). Have I explained the problem?
5. Doing the wrong investigation. Radiological techniques are developing rapidly. It is often helpful to discuss an investigation with a radiologist before it is requested. Is this the best investigation?
6. Over investigating. Some clinicians tend to rely on investigations more than others. Some patients take comfort in being investigated. Are too many investigations being performed?

### What advice is available?

In some clinical situations firm guidelines have been established. Guidelines are:  
'systemically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances....'(Field and Lohr 1992, 13).

Just as the term implies, a guideline is not a rigid constraint on clinical practice, but a concept of good practice against which the needs of the individual patient can be considered. So while there have to be good reasons for ignoring them they are not absolute rules. No set of recommendations will command universal support and you should discuss any problems with your radiologists.