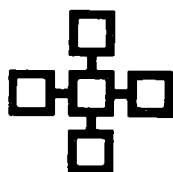


The Development of Diagnostic Radiological Services at Consultant Level

— A Discussion Document



Comhairle na n-Ospidéal

CONTENTS

Section 1	- Introduction	1
Section 2	- The Role of the Radiologist	2 - 4
Section 3	- Growth in Demand	4 - 5
Section 4	- Specialisation within Radiology	5 - 6
Section 5	- Professional Qualifications and Experience...	7
Section 6	- Administrative Responsibility.....	8
Section 7	- Academic Posts in Radiology.....	9
Section 8	- Structuring of Consultant Posts in Radiology	9 - 14
Section 9	- Consultant Manpower Needs	14 - 16
Section 10	- Postgraduate Training in Radiology	17
Section 11	- Concluding Remarks.....	17
Appendix A	- Extracts from the First Report (May, 1975) and the Second Report (December, 1977) of the Council for Postgraduate Medical and Dental Education.	18 - 22
Appendix B	- Faculty of Radiologists - Higher Education in Radiodiagnosis.	23 - 25

THE DEVELOPMENT OF DIAGNOSTIC RADIOLOGICAL SERVICES AT CONSULTANT LEVEL

– A Discussion Document

Section 1 – Introduction

1.1 At the outset, it is acknowledged that the state of development of the radiological services in this country leaves much to be desired. In the past, a variety of factors have contributed to this developmental lag, experienced most acutely in the 1950's and 1960's. These included a severe shortage of consultant manpower (also experienced in other countries); economic factors; inadequate involvement of radiology and radiologists in undergraduate and postgraduate medical education; and the rapidly changing and expanding nature of the discipline, all of which led to a depressed demand for services. In more recent times, the position has shown a considerable improvement particularly in relation to consultant manpower, increased investment in radiology equipment, support staff and other facilities. The Comhairle considers that the time is now opportune to look at the future development of this specialty to ensure that the growth, which is currently in evidence, will be in conformity with a rational plan designed to meet the needs and circumstances of the hospital services as well as to provide a professionally satisfying career for those doctors who may choose radiology as their specialty.

1.2 This document deals almost exclusively with the consultant radiologist. It should be realised that consultant radiologists constitute only one element, albeit a vital one, of the total service. Radiology departments are units which require close integration and co-ordination of all staff categories and facilities. The consultant has a key role to play in achieving efficiency and effectiveness in the department and, for this reason, he/she must be in administrative control of it.

Section 2 – The Role of the Radiologist

2.1 The radiologist of today uses a variety of technologies – some old, some new, all rapidly evolving. They include x-rays, radioisotopes, ultrasound and computerised axial tomographic (C.A.T.) scanners. Skill is required both in the making of an image and in its interpretation. A modern department of radiology contains highly sophisticated equipment which has developed with the science of electronics. It is expensive to buy, to maintain and to use. It is manned by radiographers under the direction of the radiologists. There are many important and varied facets to the radiologist's role and function within the modern hospital setting – the actual interpretation of x-ray films being but one of these: others include:-

- responsibility for quality control in the radiology department;
- active involvement in patient investigation and a new approach to clinical management using imaging methods;
- indicating the most productive approach to the investigation of individual patients, necessitating earlier and more frequent patient contact;
- ready availability to non-radiological colleagues for consultation and advice in clinical investigation and management both in formal conferences and emergency situations;
- a continuing role in up-dating his non-radiological colleagues in recent advances in radiology and their application to patient care;
- provision of reasonable access to the hospital radiology services for general practitioners, the dental service and the public health service;
- involvement in radiation protection as it applies to patient, staff and the general population;
- responsibility for co-ordination and efficiency within his own department and in relation to liaison with other departments in the hospital;
- involvement in the planning of other hospital services increasingly necessitated by the growing complexity and expanding scope of modern radiology.

The relevant importance of these several facets to the role fulfilled by the radiologist will vary according to the size of the department and the nature of the hospital in which he works – whether, e.g. it is teaching or non-teaching, specialist or general.

2.2 It is important to stress that involvement in the wide range of activities listed is a feature of the proper functioning of the modern radiologist and constitutes the basis on which his professional responsibilities are formed. The Comhairle is firmly of the view that all investigations using x-rays should be under the supervision of a

consultant radiologist. The growing importance of the radiologist in acute medical care, as well as the range and type of specialised expertise required, are factors which should be taken into account in determining the consultant manpower needs in this specialty for a hospital or group of hospitals. For example, a consultant radiologist should be available to a large hospital on a 24-hour basis for emergency investigations and consultations and must provide an immediate reporting system for critical care areas such as the maternity department, intensive care units, emergency surgery etc. Included among emergency procedures are ultrasonic localisation of the placenta in antepartum haemorrhage, ventilation/perfusion lung scans in differential diagnosis of pulmonary embolism, angiography in acute peripheral vascular accidents, to quote but a few. These and many other procedures are becoming increasingly utilised in many areas of clinical diagnosis.

2.3 It is also important to realise that the radiology service has very little control over its work load. Traditionally, requests for investigations are initiated and generated by doctors having primary care of patients (surgeons, physicians, general practitioners etc.). Because of the growing complexity of radiological procedures and the need to keep all radiological investigations to the minimum commensurate with good care and management, the radiologist should play a major part in deciding how demand should best be met and services properly utilised. The radiologist should take positive action to maintain a two-way flow of information between his department and his clinical colleagues. This will involve conferences and direct consultations between clinicians and radiologists within the hospital itself and also liaison with general practitioners having access to the radiology department. It must be recognised that there is scope for abuse in the demand for radiological services and the radiologist has a delicate role to play in ensuring that it does not occur.

2.4 A further issue which requires consideration is the question of direct access to radiological facilities for non-radiological consultants who have the necessary training and expertise to utilise such facilities for diagnostic purposes e.g. the use of ultrasound equipment by an obstetrician and the investigation of the heart and its arteries by a cardiologist. While it is accepted that diagnostic ultrasound is a multi-disciplinary activity, it is considered likely that, in most instances, the greater part of the necessary equipment will be housed in a radiology department. In the event of this being so, it will be part of the responsibility of the radiologist in administrative control of the department to ensure that this access is arranged. In such an event, the non-radiological consultant must be willing to avail of such access in such a way as to facilitate the smooth functioning of the radiology department. In a major general hospital, it is quite clear that a high degree of co-

operation and co-ordination will be required to achieve an equitable degree of access for all the non-radiological consultants concerned. In some instances, non-radiological consultants may have equipment housed in their own departments, but unnecessary duplication of support staff and equipment within the hospital as a whole should be avoided. If for no other reason, safety and quality control would demand that all x-ray equipment – no matter where stationed in a hospital – must be ultimately under the control of a radiologist. Likewise, all users of isotopes should be under the control of one person in the hospital who specialises in nuclear medicine.

Section 3 – Growth in Demand

3.1 The increase in demand for conventional radiological services in this country appears to be a steady compound increase of about 6% per annum. In Great Britain the increase in demand has slowed in recent years to about 5% per annum but it shows no signs of levelling off in either country. In 1974, there were 350 x-ray examinations per 1,000 population in England/Wales and it is not expected that demand will level off before it exceeds 600 examinations per 1,000 population which is the level in many developed countries such as Sweden, Switzerland, West Germany and the U.S.A. These figures do not include recently introduced methods of investigation such as nuclear radiology, ultrasound and C.A.T. scanning – it is not yet possible to predict saturation levels in those modalities. There are no official statistics available to indicate the level of demand for x-ray examinations in this country. A crude estimate, based on workload information furnished to the Comhairle by individual hospitals, points to something of the order of 300 examinations per 1,000 population but this cannot be regarded as more than a rough guess. At a conservative estimate, the workload in all radiology departments in this country can be expected to double every twelve years for the next two to three decades. The factors influencing the radiological workload in an acute general hospital may be summarised as follows: –

- (a) population size and age structure – the frequency of x-ray examinations increases considerably after 65 years of age;
- (b) increasing bed complements – the rate of x-ray examinations per bed increases with the number of acute beds – the bigger the hospital, the more specialist units it will contain and such units generate a large volume of complex radiology;
- (c) more rapid turnover of beds and shortened patient stay – the

- more efficient use of hospital beds is largely dependent on the radiological and laboratory facilities;
- (d) expansion of out-patient activity;
 - (e) continuing technological advances within the field of diagnostic radiology;
 - (f) increasing trend towards clinical specialisation leading to a demand for more detailed and complex radiological investigation;
 - (g) increasing medical and other staff levels in hospitals;
 - (h) easier access to health services generally for the population as a whole (e.g. extension of eligibility and expansion in voluntary health insurance);
 - (i) legal and social pressures;
 - (j) increasing involvement of radiology in continuing medical education in other disciplines.

It should be noted that the factors listed operate independently of the changing role and work pattern of the radiologist indicated in Section 2 of this document.

Section 4 – Specialisation within Radiology

4.1. In the recent past, a trend towards sub-specialisation has been emerging in radiology which must be welcomed for the contribution it will make to the raising of standards. The Comhairle accepts the desirability of encouraging and facilitating this trend in the exercise of its statutory functions in relation to consultant appointments. It has recently given approval to the creation of appointments of radiologists with whole-time or part-time special interests in neuro-radiology, vascular radiology, ultrasound, nuclear radiology and paediatric radiology. However, the Comhairle thinks that the time is now opportune to formulate policy on sub-specialisation in radiology covering such issues as the pace at which it should occur, the areas of specialised involvement which would be appropriate, the extent of the commitment by individual consultants which would be consistent with the workload available in each sub-specialty, the type of hospital environment required for the practice of the different sub-specialties and also, the training requirements needed to support specialisation. It is essential that any policy evolved should ensure proper provision for the

continued development of general radiology with particular reference to the needs of the smaller general hospitals.

4.2 In general, the Comhairle envisages the emergence of three broad categories of radiologists to service the needs of hospitals in this country: -

- (a) *General Radiologists* in hospitals of all sizes;
- (b) *Radiologists with fields of special interest* in addition to a commitment to general radiology. The commitment of such radiologists to their special interest area should be significant in order to maintain a reasonable expertise in it. This type of appointment would be appropriate in the larger hospitals with a complement of three or more consultant radiologists;
- (c) *Specialist Radiologists* devoting all of their working time to a sub-specialty area. Such appointments would be appropriate only in certain teaching hospitals and in some special hospitals (e.g. children's hospitals).

4.3 The proposed introduction of whole-time specialist appointments into the major general teaching hospitals may, in some cases, give rise to organisational problems. For example, it may unduly disrupt the functioning of some departments if all members of the consultant staff were not to participate; in part, in the provision of a general radiological service. The Comhairle thinks that a flexible approach to the degree of commitment to the special interest activity would be appropriate in such circumstances.

4.4 There is some difficulty about specifying the areas of sub-specialisation in radiology. This arises because radiological techniques are heavily influenced by a rapidly evolving scientific technology. Consequently, techniques which are now special may not be so in the near future. The Comhairle thinks that a cautious approach is called for in designating areas of sub-specialisation and that whatever designations may initially be decided upon will have to be subjected to periodic review. At the present time, it would seem that sub-specialisation may be structured on: -

- (a) Technological advances in imaging e.g. the use of isotopes, ultrasound or angiography;
- (b) Clinical categories e.g. paediatrics, neurology and neuro-surgery.

4.5 Whether an individual sub-specialty is undertaken either on a part-time or whole-time basis, will depend on many different factors such as the degree of specialisation within the hospital; the size of the department of radiology; the state of development of a new technique in the hospital, et cetera.

Section 5 – Professional Qualifications and Experience

5.1. The following are the minimum professional qualifications which have been specified by the Comhairle for consultant appointments in radiology:

- (a) (i) The possession of the Fellowship of the Faculty of Radiology of the Royal College of Surgeons in Ireland or a qualification in radiology at least equivalent thereto ,
or
- (ii) The possession of a recognised diploma in medical radiological diagnosis awarded before May, 1966 or a qualification in radiology awarded before May, 1966 at least equivalent thereto.

The Comhairle considers that the above professional qualifications are satisfactory. In addition, candidates for posts must also have the necessary minimum experience which is as follows: –

- (b) (i) In the case of persons who possess the qualification at (a) (i) above, the specialisation, on a full-time basis, in the practice of radiology for at least five years,
or
- (b) (ii) In the case of persons who possess the qualification at (a) (ii) above, the specialisation on a full-time basis, in the practice of radiology since acquiring such diploma.

It is necessary to review the specification of experience in the light of the development of specialisation in radiology adverted to in the preceding section of this document. The Comhairle considers that the present requirements will continue to be appropriate for general radiologists. However, in the case of appointments with a part-time special interest attached to them, the Comhairle, having consulted with the Faculty of Radiologists, intends to include in its specification of a minimum five years full-time experience, at least six months satisfactory experience in the special interest subject. For whole-time special interest appointments, at least one year's satisfactory experience in the specialty is regarded by the Comhairle as essential.

5.2. Arising out of its consideration of the experience which ought to be specified for part-time special interest posts, the Comhairle wishes to draw the attention of hospital authorities to the desirability, where new equipment (e.g. ultrasound) is being located in hospitals, of facilitating an existing consultant in attending at a suitable centre in order to gain experience of its use.

Section 6 – Administrative Responsibility

6.1 As already mentioned in paragraph 1.2, it is essential that a consultant radiologist must be in administrative control of the radiology department in a hospital. In situations where a number of consultant radiologists may be attached to the department, one of these should be designated as being in administrative charge of the department. The radiologist concerned should be responsible for and have executive functions in relation to:-

- (i) the day-to-day administration of the department;
- (ii) the co-ordination of the work of his radiologist colleagues (but not interference with their professional practice);
- (iii) the over-all supervision and control of junior professional and non-professional staff;
- (iv) quality control;
- (v) radiation protection as it affects patients, staff, population and environmental conditions in working areas;
- (vi) safe radiological and radiographic practice;
- (vii) liaison with medical, surgical and obstetrical colleagues involved in the several areas of ultrasound.

6.2 "Administrative Director" – would be an example of an appropriate title for such a post. It is important to emphasise that the consultant in administrative charge would have no function in relation to the professional practice of his radiologist colleagues except a co-ordinating one. He would, of necessity, have considerable commitments outside the radiology department, especially with the current tendency towards a growing number of hospital and health service committees. Notwithstanding this, his radiological practice should still constitute the greater part of his workload. He could be a general radiologist or a radiologist with a part-time special interest. It is doubtful if a whole-time specialist radiologist could be effective in administrative charge of a department.

Section 7 – Academic Posts in Radiology

7.1 The Comhairle considers that the medical schools in this country should give attention to the creation of academic posts in radiology. At the present time there is only one formal wholetime academic appointment. Such posts could have a crucial role to play in the maintenance of quality and standards in radiological services. The practice in many countries is to encourage wholetime university appointments with appropriate facilities provided in the radiological departments of the teaching hospitals associated with the medical schools. The service commitment attached to such posts can vary from minimal to about 50% with the balance devoted to teaching, research and related academic activities. In the opinion of the Comhairle, the structure of such posts in this country should include a geographically wholetime commitment within the university/teaching hospital(s) involving a service content of not more than 50%. The holder of such an appointment should not necessarily be in administrative charge of the radiology department. He must be supported by other staff, as are the wholetime academic professors in clinical subjects.

Section 8 – Structuring of Consultant Posts in Radiology

8.1 The approach of the Comhairle to the structuring of all consultant appointments is set out in detail in Section 4 of its "First Report" published in December 1975. Briefly, the Comhairle endeavours to ensure, as far as possible, that each appointment is structured in such a manner as to constitute a viable job which is likely to service adequately the needs of the hospital(s) concerned and to satisfy the appointee from a professional viewpoint. Aspects such as teaching, research and administrative commitments have also to be taken into account. An essential feature of the Comhairle policy is to achieve as near a maximum commitment as possible to a single hospital or group of hospitals.

8.2 The relatively poor state of development of the radiological services in this country – mentioned at par. 1.1. – gave rise, in the past, to some practices which would not be in accord with the Comhairle policy.

These included the creation of consultant appointments on a regional basis involving commitments to a number of separate hospitals considerable distances apart; the appointment of visiting radiologists based in major centres who attended at peripheral hospitals on a regular but infrequent basis; and the development of a postal radiology service. With the improvements in consultant manpower, support staff and other facilities which have occurred in the recent past, these practices have, to a large extent, been eliminated. There are still some parts of the country (mainly rural situations) where the radiological service has not yet been properly developed and some of these undesirable practices still persist. The Comhairle hopes it will be possible to rectify these situations in the near future.

8.3 There is a danger that the trend towards specialisation in radiology may, to an increasing extent, as it becomes more established, give rise to problems in the structuring of some posts in line with the policy set out in par. 8.1. These difficulties stem from the fact that outside the main population centres at Dublin, Cork and Galway, there are, and will continue to be, many small general hospitals which cannot support a high degree of specialisation in radiology. Indeed, the scale of activity in some of these hospitals is such that they cannot generate a sufficient workload to justify a major commitment by a single general radiologist. Others may have a sufficient workload for one general radiologist but not for two, giving rise to problems of consultant cover and professional isolation. Even within the Dublin and Cork areas, there is a number of smaller general hospitals with similar workload problems which will have to be coped with for many years pending their physical amalgamation into new major hospital centres which have yet to be planned and constructed.

8.4 These problems are not, of course, peculiar to radiology but relate to specialisation in hospital medicine as a whole. However, there is a danger that they may be experienced more acutely in radiology due to the heavy dependence on expensive and sophisticated equipment plus support staff to enable a reasonable level of specialisation to be undertaken. If a similar degree of emphasis on specialisation were to emerge amongst radiologists as is already in evidence amongst physicians and surgeons, the consequences would be increased frustration, from a professional viewpoint, on the part of general radiologists based in the smaller hospitals and further aggravation of the recruitment difficulties which these hospitals have experienced for many years. These considerations stress the importance of maintaining a proper balance between the requirements in general and specialised radiology in the future development of services and of ensuring that general radiology does not suffer in status or priority as a result of increased specialisation. The achievement of a reasonable balance between the two will require careful consideration by the bodies responsible for those

aspects of development which will largely influence the situation namely the Comhairle in the creation and structuring of consultant appointments, the Faculty of Radiologists in the formation of postgraduate training programmes and the Department of Health in the allocation of staff resources and equipment to different types of hospitals.

8.5 The following extract from the "Second Report" of the Comhairle published in December 1978 has a particular relevance in the field of radiology: -

"7.11. In order to overcome the limitations of small hospitals and to create a sufficient workload to support a reasonable level of specialisation by consultants, it is necessary to explore new ways of organising and operating services. The Comhairle believes that, as a long-term objective, the concept of a joint department involving the staffs in particular specialties in two or more separate hospitals is worthy of examination and experimentation. The purpose of setting up a formal joint department in a particular specialty is to establish a group of consultants with collective responsibility for organising and providing from within their combined resources a satisfactory service to meet the needs of all of the people served by their individual hospitals. The combined resources of such a unit could allow for more specialisation, for more continuous service, for better rostering and for such contingencies as emergency and locum cover. The Comhairle also sees advantages in the joint department concept for the training of junior medical staff. For some hospitals, it might well be the only way to obtain recognition for postgraduate training purposes. There is also scope in joint departments for the sharing of other resources such as equipment, nursing and technical staff. The precise arrangements to be introduced in particular situations would vary depending on local circumstances and there is much scope here for experiment. What is essential, however, is that such an arrangement should be formal. Hence the support of the hospital authorities concerned is essential if the idea is to work successfully. It will involve on the part of all concerned substituting institutional loyalty by a commitment to an area or hospital group service. The Comhairle is convinced that approaches such as this are essential in the interests of achieving the highest standards of patient care and the maximum utilisation of scarce resources in the absence of significant physical rationalisation of the hospital system. Whenever opportunities present themselves, it will encourage hospital authorities to explore joint arrangements to the full".

Since the radiological services will, desirably, be expanding rapidly in the coming years, the opportunities for arrangements on the lines of those described in the above extract will be plentiful.

8.6 Because of remoteness, joint arrangements may not be feasible for some small hospitals in which case, there may be no alternative to the appointment of two wholtime radiologists despite doubts about the adequacy of the workload to maintain competence. The Comhairle considers that each such situation will have to be considered on its merits before decisions can be reached on the level of consultant staffing in radiology.

8.7 However, the majority of the smaller general hospitals are reasonably convenient to larger general hospital centres and joint staffing arrangements in radiology are both feasible and desirable. Where the workload would justify it, the arrangements might, at the minimum, provide for a single radiologist to be based mainly at the smaller hospital with cover during his absences being supplied from the larger centre – this factor would be taken into account in determining the staffing level for the larger centre. In such instances, it is desirable that arrangements should be made to enable the radiologist to spend one to two sessions per week at the larger centre in order to maintain contact and liaison with his professional colleagues.

8.8 In the few instances where the workload might not warrant a radiologist being based at the smaller hospital, special arrangements will need to be made to provide consultant services on a visiting basis from the larger centre. It must, however, be acknowledged that where such arrangements prove to be necessary, the resultant service will be less than satisfactory – this type of situation underlines the problems created by the retention of small hospitals.

8.9 With regard to the larger general hospitals outside Dublin, Cork and Galway, for example those at Limerick, Waterford, Sligo and Drogheda, it is considered that the workload in radiology may justify a complement of at least three consultant radiologists particularly if they enter into arrangements with an outlying hospital on the lines described in par. 8.7. The development of complementary part-time special interests between the consultants should be encouraged in radiological departments.

8.10 The major general teaching hospitals or hospital groups in Dublin, Cork and Galway will require an even larger complement of consultant radiologists. The precise staffing level will depend on the size of the hospital and the type of clinical departments in each case. Joint arrangements with smaller general or special hospitals (see par. 8.5) will also influence the number of consultants needed. The consultant staff unit should comprise a mixture of general radiologists, radiologists with part-time special interests and specialist radiologists again depending on local circumstances. For instance many, if not all, would require a radiologist specialising full-time in nuclear radiology, those with a large

paediatric department might require a specialist paediatric radiologist and those with a neuro-surgical centre might need at least one specialist neuro-radiologist.

8.11 The provision of radiological services at consultant level to the major specialist hospitals in Dublin requires special arrangements. Included in this group are three maternity hospitals, four children's hospitals, two orthopaedic hospitals, one eye and E.N.T. hospital, three cancer hospitals and two fever hospitals. The following extract from the Comhairle's "Second Report" (Par. 7.15) is relevant:--

"... During the period under review, the Comhairle has received a number of applications for consultant posts from these hospitals. This had led it to devote much time and energy to the problems of the relationships which ought to be developed between these hospitals and the general hospitals in Dublin, bearing in mind the general hospital plan described in the preceding paragraphs. In the course of many discussions with specialist hospitals, the need for the formation of closer links with the general hospitals has been generally acknowledged by all concerned. The needs in anaesthesia, pathology and radiology particularly have made such links essential. In respect of these services, the Comhairle has advocated the setting up of joint departments between hospitals. While some progress has been made in this direction, disagreement has arisen in some cases as to which hospitals should link together. The Comhairle thinks that, generally, geographic considerations should be the influencing factor in determining this question. In examining proposals for the appointment of future consultant staff, the Comhairle will, through the structuring of posts, continue in its efforts to strengthen the liaison between the specialist hospitals and those general hospitals situated in close proximity to them".

It is the intention of the Comhairle to pursue this policy in relation to the development of radiological services in the hospitals concerned. Where joint arrangements are established between a specialist hospital and a general hospital, the staffing of the joint department of radiology should include at least one specialist radiologist who would be based mainly in the specialist hospital but who would also be a member of the joint department. Where both a maternity and a children's hospital are linked to a particular general hospital, it might be appropriate, within the joint department concept, to link these two specialist hospitals together from the point of view of radiologist staffing, particularly in the interests of acute neonatology and providing an ultrasound service.

8.12 It will be clear from the foregoing that the Comhairle considers that, in the hospital situation which exists and is likely to continue, in this country, it will be necessary for closer and more formal consultant

staffing arrangements to be developed between hospitals. This should lead to the formation of larger departments of radiology spanning two or more neighbouring hospitals. In considering the appropriate staffing levels in such situations, the Comhairle intends to take full cognisance of the difficulties inherent in providing services at more than one location and to avail of the opportunity afforded by the formation of larger departments to build in provision for off-duty cover within the overall consultant complement.

Section 9 – Consultant Manpower Needs

9.1. On the 1st May, 1979, there were 67 consultant radiologists in practice and there were 17 vacant posts. The total establishment of 84 consultant appointments in radiology represents a ratio of one consultant per 40,000 population (1979 census). This manpower is distributed as follows: –

TABLE A

DISTRIBUTION OF MANPOWER IN RADIOLOGY

Health Board Area	Mid-Western	Southern	Eastern	Midland	North-Eastern	South-Eastern	North-Western	Western
Establishment	5	15	36	3	7	5	4	9
No. of Posts vacant	1	4	6	1	1	1	2	1
Population (000's) per Consultant	60.1	34.4	32.3	65.9	40.1	58.2	51.0	37.2
% Distribution	6	18	43	4	8	6	5	11
% of Population	9	15	35	6	8	11	6	10

The comparison of the distribution of manpower in radiology related to the distribution of population reveals some anomalies – notably in the Midlands, the Mid-West and the South-East. However, generally speaking, there are no serious maldistribution problems.

9.2. It is difficult to be precise about replacement needs in any speciality because, unlike the health boards, retirement at 65 years of age is not compulsory in the voluntary hospitals. However, some indication can be gleaned from examination of the ages of consultant radiologists in practice on 1st May, 1979:-

TABLE B
AGES OF RADIOLOGISTS

Age Group	No. of Consultants	% of Total
65 years or over	5	7.5
61 – 64	3	4.5
56 – 60	6	9.0
51 – 55	5	7.5
46 – 50	7	10.4
41 – 45	15	22.3
36 – 40	21	31.3
35 or under	5	7.5

It will be noted that 61% of the consultants in practice are under 45 years of age. This indicates a low replacement need (1-2 per annum) due to retirement for a considerable time to come. Vacancies will also, of course, arise due to resignations and deaths but with the relatively small numbers involved in this speciality, it is not possible to estimate with any degree of preciseness what this might be. Over-all replacement needs would seem to amount to an average of about two consultants per annum for some years to come.

9.3. With regard to future consultant manpower needs, the Comhairle published, in August, 1978, its "Consultant Manpower Projection up to 1981". The following extract relates to radiology: -

"15.2. The Comhairle considers an establishment of 99 consultant radiologists by 1981 as necessary. The overall increase in the consultant establishment would be 24 posts (32%) and the resultant consultant/population ratio would be 1:31,600. The ratio of consultant radiologists to consultants in E.N.T. surgery, obstetrics/gynaecology, orthopaedic surgery, paediatrics, medicine and surgery would be 1:6.05.

15.3. The estimated number of new consultants required will be as follows: -

No. of Current Vacant Posts	—	15
No. of Retirements	—	6
No. of Additional Posts	—	24
Total No. of New Consultants required	—	45

15.4. The expansion envisaged in radiology is large and reflects the rapidly expanding nature of this specialty which is burgeoning at present. To a large extent, the current expansion represents an overtaking of long-standing deficiencies. The Comhairle understands that there is a considerable number of Irish doctors in training or already trained in radiology, many of whom are abroad and awaiting opportunities to return to this country. The Comhairle is hopeful that the target set, though sizeable, will prove to be attainable".

The Faculty of Radiologists of the Royal College of Surgeons in Ireland has submitted a document to the Comhairle setting out the results of a study on consultant manpower requirements in radiology up to 1984, which, broadly speaking, is in harmony with the Comhairle projection given the different time-span involved. It should be borne in mind that the Comhairle projection is related to past and present experience of the pattern of demand for services and the existing circumstances under which this demand is met. Changes in the existing situation such as the emergence of a common contract for consultants may necessitate a further review of the projected consultant manpower need.

Section 10 – Postgraduate Training in Radiology

10.1. The present position regarding postgraduate training in radiology is described in detail in the published reports by the Council for Postgraduate Medical and Dental Education – the relevant extracts are set out in Appendix A to this document.

10.2. As yet, programmed training at higher specialist level (i.e. senior registrar) in radiology has not been introduced in this country. Such programmes are now well established in surgery and anaesthesia, they have recently commenced in obstetrics/gynaecology and in psychiatry and will shortly begin in the medical specialties. The Faculty of Radiologists is at present studying the implications of introducing formal higher specialist training programmes. A submission by the Faculty to the Comhairle on "Higher Education in Radiodiagnosis" is attached at Appendix B. The Comhairle is anxious to give encouragement and to facilitate the introduction of formal postgraduate training at senior registrar level in radiology as soon as the necessary arrangements (including inspection and recognition of hospitals) can be finalised by the Faculty.

Section 11 – Concluding Remarks

11.1 Arising from the statutory functions of the Comhairle, the emphasis in this document is on the development of radiological services at consultant level. While the implementation of the recommendations it contains will result in a much better service than exists at present, it must be emphasised that the efficiency and effectiveness of the consultant radiologists will depend to a large extent on the provision of adequate support facilities including space, equipment and different types of staff. These are not matters which fall within the ambit of the Comhairle but they do require attention by the Department of Health and hospital authorities, and their development needs to be planned in harmony with the proposed developments at consultant level.

COMHAIRLE NA n-OSPIDEÁL
MAY, 1980.

APPENDIX A

Extracts from First Report (May 1975) and Second Report (Dec. 1977) of the Council for Postgraduate Medical and Dental Education.

Radiology

Extract from First Report (May 1975) – Radiology

Co-ordination with the United Kingdom

16.1 There is no body in radiology corresponding to the Joint Committees in other specialties. The Royal College of Radiologists (formerly the Faculty of Radiologists) organises postgraduate training in the United Kingdom and the Faculty of Radiologists of the Royal College of Surgeons in Ireland (see paragraph 16.5) organises postgraduate training in this country. These are separate independent bodies but, as detailed later, there is a considerable degree of co-operation between them.

16.2 The Royal College of Radiologists has an Education Board which supervises training programmes and examinations. The Faculty of Radiologists of the Royal College of Surgeons in Ireland is represented on this Education Board.

United Kingdom Programme

16.3 There are two sub-divisions of the specialty – Radiodiagnosis and Radiotherapy (including Clinical Oncology). The programme of training is at present under review, but a broad outline of the current position is set out below: –

General Training

To be eligible to enter training in radiology candidates should have at least one year's clinical experience after full registration.

The present position in respect of qualifications in radiology is as follows:–

(A) Diplomas

- (i) **Radiodiagnosis:** Diplomas in Radiodiagnosis are awarded by the Universities of Aberdeen, Edinburgh and Liverpool, and the Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England.

As from June, 1974, the Part I examination for the D.M.R.D. of the Conjoint Board has been discontinued and replaced by the First Examination (Radiodiagnosis) for the Fellowship of the Royal College of Radiologists.

- (ii) **Radiotherapy:** Diplomas in Radiotherapy are awarded by the Universities of Edinburgh and Liverpool, and the Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England.

As from June, 1974, the Part I examination for the D.M.R.D. of the Conjoint Board has been discontinued and replaced by the First Examination (Radiotherapy) for the Fellowship of the Royal College of Radiologists.

(B) Fellowship of the Faculty of Radiologists

Fellowship Examination Structure. The Fellowship Examination in either Radiodiagnosis or Radiotherapy consists of a First Examination and a Final Examination. Candidates are eligible to sit the First Examination in Radiodiagnosis after a training period of one academic year, and those in Radiotherapy after a training period of one full year. Candidates who have passed the First Examination are permitted to sit the Final Examination three years after commencing their training.

Approval of Training Posts

Only posts in approved hospitals, preferably teaching hospitals or those affiliated to teaching hospitals, are accepted for training.

The following criteria have been accepted for (a) Radiodiagnosis and (b) Radiotherapy:

(a) **Radiodiagnosis:** The work of the department should be general and include all types of radiological investigation, including a reasonable cross-section of special investigations, with more emphasis upon nuclear medicine, thermography and ultrasonics. Arrangements should be made for trainees to receive instruction in all types of special investigation not carried out by the department. The training departments should be adequately staffed by consultants and there should be full supervision of the trainee by a senior member of staff. There should be adequate teaching space, library facilities, arrangements for tutorials and seminars, and conferences with other branches of medicine should be arranged. Courses of instruction should be available in all the sub-sections of the syllabus for the examinations.

(b) **Radiotherapy:** The department should ideally be situated in a general hospital or one affiliated to a teaching hospital, with a full range of specialist and service departments. The work of the department should include a full range of external beam therapy,

interstitial and intracavitary use of radium and radium substitutes, and the therapeutic use of isotopes. There should be adequate facilities for out-patient consultations for new cases and follow-up and facilities within the hospital for joint consultations and treatment with consultants in other specialties. There should be a number of beds in the hospital under the direct control of the Radiotherapists and at least 500 new patients with malignant diseases referred to the department annually.

The trainee's work should be fully supervised by a consultant: he should have adequate library and tutorial facilities and attend teaching conferences, and be given adequate time for organised instruction and study.

Specialist Registration

Should a Specialist Register be established in the United Kingdom the following criteria have been laid down for Radiology: -

Candidates for specialist registration must have obtained a specialist qualification in radiology acceptable to the Royal College of Radiologists, and must have had at least two years' experience outside radiology, i.e. one pre-registration and one post-registration year and four years' specialised experience in radiodiagnosis or radiotherapy.

Higher Training

Some candidates, after obtaining specialist registration, may wish to gain further experience in one of the sub-specialties, e.g. neuroradiology, cardio-vascular radiology. They will continue their special education in specialist centres to obtain adequate instruction and training. The majority of candidates will continue their higher training in radiodiagnosis and radiotherapy without further sub-specialisation.

16.4 The following hospitals in Ireland are accepted by the Royal College of Radiology for D.M.R.D. and D.M.R.T. training and for the moment are recognised by the College for training under the Fellowship Regulations: -

D.M.R.D. (Part II only)

Jervis Street Hospital, Dublin.

Federated Dublin Voluntary Hospitals, Dublin

Mater Misericordiae Hospital, Dublin.

Meath Hospital, Dublin.

St. Laurence's Hospital, Dublin.

St. Vincent's Hospital, Dublin.

Regional Hospital, Galway.

D.M.R.T. (Parts I and II)

St. Luke's Hospital, Dublin.

D.M.R.T. (Part II only).

St. Anne's Hospital, Dublin.

Irish Organisation

16.5 There is a Faculty of Radiologists in the Royal College of Surgeons in Ireland. It consists of Fellows i.e. holders of the qualifications of F.F.R., R.C.S.I., and is administered by a Faculty Board which is elected by the Fellows. The Board consists of six members and officers of the Board are the Dean, Vice-Dean, Honorary Secretary and Honorary Treasurer. There is a nominated representative of the Council of the Royal College of Surgeons in Ireland on the Board and the President and the Vice-President of the College are ex officio members.

16.6 The aim of the Irish Organisation is to advance the science, art and practice of radiology and its allied sciences and to promote education, study and research in radiology.

16.7 The Faculty has a Fellowship Advisory Board. It consists of representatives of the Faculty Board and the training hospitals and a representative of the Royal College of Radiologists, of the Royal College of Physicians in Ireland and of the Department of Health.

16.8 The aim of the Fellowship Advisory Board is to organise and supervise the training of radiologists, the conduct of examinations and the organisation of scientific meetings.

16.9 The Irish Faculty organises both general professional training and higher specialist training. It does not award Diplomas but awards Fellowships (F.F.R., R.C.S.I.). Candidates must have one year's clinical experience before starting training. The Fellowship examination consists of two parts – a Primary and a Final Examination. Candidates are eligible to sit the Primary Examination in Radio diagnosis after a training period of one academic year and those in Radiotherapy after a training period of one full year. Candidates who have passed the

Primary Examination are permitted to sit the Final Examination three years after the commencement of training. Trainees are encouraged to seek post-Fellowship experience abroad.

16.10 The Irish Faculty is working towards reciprocity with the United Kingdom Faculty in the First Examination, so that candidates may ultimately take either Fellowship.

Recognition of Posts

16.11 A total of 8 training posts have been approved in the following hospitals in Dublin:-

St. Laurence's Hospital	2
Mater Hospital	2
St. Vincent's Hospital	2
Federated Hospitals	2

There are also at present 5 recognised training posts in Radiotherapy and Clinical Oncology at St. Luke's Hospital, Dublin.

Further Information

16.12 Further information may be obtained from the Faculty Secretary, Faculty of Radiologists, Royal College of Surgeons in Ireland, St. Stephen's Green, Dublin 2.

Extracts from the Second Report (Dec. 1977.)

(g) Radiology

There is now reciprocal recognition between the Faculty of Radiologists of the Royal College of Surgeons in Ireland and the Royal College of Radiologists, regarding the Primary Examination. A Diploma awarded after 1966 is not now recognised as a qualification for the appointment of a Consultant Radiologist in this country - a Fellowship, or a qualification at least equivalent thereto is required. The aim of trainees is, therefore, to obtain a Fellowship but they are encouraged, as part of their training, to take the Diploma in their second year. No posts of Senior Registrar have yet been created.

APPENDIX B

Higher Education in Radiodiagnosis

Consultant Appointment

Consultant appointments in radiodiagnosis require the qualification of F.F.R.R.C.S.I. or equivalent as determined by the Board of the Faculty of Radiologists of the Royal College of Surgeons in Ireland and a minimum of five years full-time practice in a department recognised by the Faculty of Radiologists of the Royal College of Surgeons in Ireland or equivalent (see appendix).

Training in Radiology

Eligibility for training in diagnostic radiology requires at least one year hospital experience after full registration, which should preferably be clinical.

Training Programme

The training programme of the Faculty of Radiologists of the Royal College of Surgeons in Ireland consists of:-

- (1) Basic specialist training.
- (2) Higher specialist training.

(1) Basic Specialist Training

This includes the first three years up to Fellowship level. In the first year of training, teaching is in normal anatomy of all imaging procedures and the techniques of examination and physics. Hospital experience is supplemented by lectures and tutorials in these subjects. The Primary Examination of the Fellowship is taken at the end of the first academic year. During the succeeding two years, supervised practical experience in the hospital is supplemented by lectures and tutorials and teaching in specialised subjects organised by rotation to hospitals specialising in cardiac radiology, nuclear radiology, neuro radiology, paediatrics and ultrasonography. At the end of this period the candidate takes the Fellowship Examination.

(2) Higher Specialist Training

(a) General Radiology

This is for a period of two years in a recognised hospital. Ideally this should not be in the hospital where the basic professional training has been obtained and may be obtained in posts abroad recognised and approved by the Faculty. During this period, experience in all aspects of

general radiology is obtained and includes specialised training in ultrasonography and paediatrics by a rotation programme supplemented by tutorials.

(b) Sub-specialisation

Nuclear radiology, neuro radiology and paediatrics are recognised as sub-specialties. A sub-specialist is a Radiologist with a full-time commitment to practice in the sub-specialty.

Sub-specialisation in nuclear radiology requires possession of the F.F.R. or equivalent, completion of basic specialist training and one year of higher specialist training in general radiology followed by a minimum of one year in the full time practice of nuclear radiology at a department recognised by the Faculty.

Sub-specialisation in neuro radiology requires possession of the F.F.R. or equivalent, completion of basic specialist training and one year of higher specialist training in general radiology followed by a minimum of one year in the full time practice of neuro radiology in a department recognised by the Faculty.

Sub-specialisation in paediatric radiology requires possession of the F.F.R. or equivalent, completion of basic specialist training and one year of higher specialist training in general radiology followed by a minimum of one year in the full time practice of paediatric radiology in a department recognised by the Faculty.

(c) Special Interest

The Faculty of Radiologists recognises multiple areas of special interest in diagnostic radiology. A general radiologist with a special interest will spend a portion but not full part of commitment in the practice of the special interest.

Recognition of a special interest requires possession of the F.F.R. or equivalent; completion of basic professional training and two years higher professional training in radiology which includes a period equivalent to six months specialisation in appropriate special interest at a department recognised by the Faculty.

Appendix

- (1) The Faculty of Radiologists of the Royal College of Surgeons in Ireland is responsible for training programmes in diagnostic radiology and in radiotherapy and oncology and for certification of specialist accreditation in radiology.
- (2) Fellowship of the Faculty of Radiologists of the Royal College of Surgeons in Ireland is awarded by examination after a minimum of three years full time training in an approved department. Consultant appointment requires a minimum of five years full time practice in radiology at a centre approved and recognised by the Faculty.
- (3) Equivalent qualifications recognised by the Faculty are:-
Fellowship of the Royal College of Radiologists,
Fellowship of the Royal Canadian College of Radiology,
Fellowship of the Australasian College of Radiology,
Diploma of the American Board of Radiology.
- (4) Centres for basic and higher specialist training are approved by:-
 - (a) Faculty of Radiologists of the Royal College of Surgeons in Ireland.
 - (b) Colleges as listed in paragraph 3.
- (5) Posts for basic specialist training should be registrar grade and the present recognised hospitals are: -
Baggot St., Mater, Meath, St. Laurence's and St. Vincent's Hospitals.
- (6) Posts for higher specialist training should be Senior Registrar grade and for a maximum period of four years. Candidates should be of Final Fellowship standard and possess certification from the Fellowship Advisory Board of the Faculty of Radiologists of the Royal College of Surgeons in Ireland. These will be based in hospitals approved by the Faculty on a national basis.
- (7) The Faculty recommends that in higher specialist training the facility be established to permit secondment of suitable candidates for training in selected centres abroad recommended by the Faculty.

**Faculty of Radiologists.
14th February 1979**