UNIVERSITY OF DUBLIN
TRINITY COLLEGE

PROVOST'S REPORT TO COUNCIL ON THE REVIEW OF THE SCHOOL OF RADIATION THERAPY

1. INTRODUCTION

This report presents the outcome of a departmental review of the School of Radiation Therapy. An external peer review visitation was undertaken on the 23rd and 24th March, 2004 by Professor Phillipe Lambin, University Hospital, The Netherlands, and Professor Ann Barrett, University of East Anglia. During the visit the reviewers met with all staff of the Department, staff of cognate departments, representatives of students in the Department, and senior officers of the College.

The report is based on (i) feedback from the external reviewers, (ii) a submission from the Dean of Health Sciences, received on the 16th August 2004 and (iii) a submission from the Department of Radiation Therapy received on the 28th July 2004.

The main purpose of the departmental review is (a) to provide a structured opportunity for the Department to reflect on its activities and plans for development, while benefiting from a constructive commentary by senior colleagues external to College; (b) to ensure that quality and standards in teaching, research and administration are being maintained and enhanced; and (c) that any areas of concern in this regard are identified and addressed within an eighteen month timescale, having regard to the resources available. This review process ensures that each academic department in College is reviewed once every five years.

2. OVERVIEW OF THE DEPARTMENT

2.1 Aims and Objectives of the Department

The aims and objectives of the Department reflect the breadth of the undergraduate programme, its philosophy of education and the clinical radiotherapy requirement.

Philosophy of Education

Aim

To produce a well rounded graduate with an understanding of the principles of research and an enthusiasm for, and interest in, further academic and professional development

Objectives

To provide the student with the skills to enable them to

- critically read and appraise scientific papers
- initiate, participate in and carry out independent scientific research
- appreciate the importance of research from a personal, departmental, national and international perspective
- further their academic studies in any of the areas covered within the curriculum

Clinical Radiotherapy

The degree award incorporates a licence to practice based on course accreditation which is carried out by the professional body.

Aim

To produce autonomous clinically competent radiation therapists

Objectives

To provide the students with the theoretical knowledge in the defined subject areas to enable them to

- interact meaningfully with the other members of the interdisciplinary team
- make decisions based on understanding
- initiate and carry out research
- offer holistic care to the patient
- understand the principles of management of care as they apply locally, nationally and internationally.

2.2 Programmes to which the Department provides teaching

B.Sc. in Radiation Therapy

2.3 Research

The School is involved in the following research projects:

- The *Radiation Oncology Safety Information System* (ROSIS) risk management project is a well established research project with international participation.
- Projects relating to (i) *skin reactions and care during radiotherapy and (ii) evaluation of a new immobilization system* have been initiated, in conjunction with clinical and physics staff of St Luke's Hospital.
- *Telesynergy* Lecturers from the School, together with staff from the Physics Department of St Luke's Hospital, are involved in a joint research project using the Telesynergy system. The aim is to compare accuracy of volume definition and the impact that Telesynergy may have on decision-making. This project will link in with an oesophageal trial under development with the surgical team in St James's Hospital. The School staff are also liaising with the clinicians on this trial.
- *Radiotherapy Audit Project* As part of this project, a group has been established between the School and St James's Hospital to develop a database to be integrated into the existing hospital patient registration system. The radiotherapy patient pathway is being mapped and all descriptors necessary to carry out detailed analysis and support research are being explored.
- *Prostate Cancer Research Consortium* Staff in the School are involved in this project which involves examining the motivations behind and the circumstances around patient willingness to allow their tissue samples to be stored in a tumour bank.

2.4 Summary Statistical Profile of the Department for the Academic Year 2002-2003[1]

Full-time staff FTE	Undergraduate FTE	Postgraduate FTE	Staff:Student Ratio	Faculty Staff:Student Ratio
6.25	29.01	0.00	5	12

[1] Figures from Senior Lecturer's Annual Report approved by Council at its meeting on the 3rd December 2003.

2.5 Accommodation and Facilities

In March 2003 the School was relocated from St. Luke's Hospital to the new Trinity Centre for Health Sciences at the St. James's Hospital campus. The School has retained strong links with St. Luke's Hospital, which still provides the majority of the clinical placements, and the third and fourth year students on placement attend the radiotherapy treatment planning review meetings. Clinical placements are provided in the two private centres in Dublin, St. Vincent's and the Mater hospitals, and in Cork in the Cork University Hospital.

3. EXTERNAL PEER REVIEW REPORT

SUMMARY OF REPORT

TEACHING

The reviewers begin their report by saying that "*The School of Radiation Therapy is providing excellent training for radiation therapists and meets all the standards expected of such a school. Criteria from the Joint Validation Council in the United Kingdom (UK) and from the Training Standards in Holland have been used as a base-line reference for these standards*". They state that they have not given detailed consideration to the content of the curriculum, as the award of the honors B.Sc. degree in Radiation Therapy is professionally accredited, but have focused more on how teaching is delivered and assessed. They note that the attrition rate of 23% is similar to that in the UK (27% in 2001). Commenting on the content of the teaching programme, the reviewers note that the first two years, taught jointly with medical students, are often perceived by the radiation therapists as insufficiently relevant to their needs. However, they acknowledge that special sessions are given in many subjects by the same tutors and are considered by the students to be very useful. In the final year, a research project is undertaken and the reviewers comment on the "*very high standard of content*" of the final year projects and on the high standard of the students' workbooks. In terms of assessment, the reviewers note that in the first two years there is a heavy reliance on examinations while assessment in the third and fourth years includes workbooks, portfolios, and written and oral examinations. The reviewers note that

clear criteria are set out for the standard of 'fail' and recommend that similar criteria are set out for the first, second and third class grades.

The reviewers met with students and note in their report the views of students on various aspects of the undergraduate programme. The students requested that they be provided with "*more documentation of the yearly timetable with clear titles for seminars and lectures'* and more practical help with their communication skills and "*learning how to explain the complexities of treatment to patients*". The reviewers recommend that the students should have a broader training on cancer treatment and be in contact earlier with basic knowledge around cancer. An induction week that would incorporate detailed visits to the Department was suggested by both the reviewers and the students, who feel that it would help to "*set their subsequent learning in context*". The students reported difficulties with Physiology, a subject which they considered to be vast, and suggested that there could be greater emphasis on the physiological changes which occur in patients with cancer. Regarding the final year project, the reviewers report a feeling amongst the students that the thesis takes up too much time and that the time assigned to it should be limited to the Michaelmas Term of the final year. In relation to placements, the students also indicated to the reviewers that it would be useful to have a clinical tutor available at all times for teaching and assessments.

The reviewers note that while there is currently little input to postgraduate training, the recent new staff appointments which have been possible due to an expansion in the undergraduate programme should facilitate development in the postgraduate area. They suggest that the Department should build on existing areas of expertise in the School and involve students in the activities of the clinical trials unit.

RESEARCH

The reviewers indicate that the previously limited research potential of the Department has been expanded with the addition of new staff. They note that the Department is currently carrying out research in the following areas:

- radiation incidents (the ROSIS project)
- information needs of patients with prostate cancer
- health services research
- automatic data capture and creation of working databases for patients with cancer

For the future, the reviewers suggest that *"a potential for research exists with the excellent new Tele-synergy equipment*" and that "*the proximity of the Institute of Molecular Medicine and its biobank, the future comprehensive cancer centre, also creates opportunities for radiotherapy directed research focused on treatment individualisation*". They conclude by recommending that the research activities of the school be embedded in the academic unit of Clinical Oncology and that they "*develop a common strategy for the next five years focusing on few strong themes".*

RESOURCES

The reviewers comment on the School's excellent equipment which includes a SMART board for interactive teaching, Tele-synergy facilities for information exchange with centres in the United States of America, throughout Ireland and Europe, and access to the University web-CT facility. In addition to using these facilities to promote e-learning and multi disciplinary teamwork, the reviewers suggest that other opportunities could be explored with the School of Physic.

Regarding library facilities, the reviewers report that good facilities exist in St. Luke's Hospital and in the University but that the students have limited borrowing rights in the John Stern Library, which is housed in the Trinity Centre.

MANAGEMENT AND ORGANISATION

The reviewers note the value to the School of links with the molecular medicine laboratories particularly in the light of new developments in individualization of cancer treatments according to molecular markers and signaling pathways. They welcome the plan to develop comprehensive cancer centres in the north and south of Dublin and feel that "*there would be a particular advantage in integrating the radiotherapy expertise currently housed in St Luke's Hospital with haematology and medical and surgical oncology*".

The reviewers comment that the status of the School internationally is recognised through their involvement in running courses for the European Society of Therapeutic Radiation Oncology, and they commend the School for having *'fostered excellent links with the United States of America and leading European centres'*.

Commenting on the recently appointed staff, the reviewers recommend that "*formal continuing professional development plans should be devised*" and that "*their involvement in patient care and/or research activities should be encouraged*".

The reviewers conclude by congratulating the School "*on achieving an excellent teaching environment and attracting well qualified staff to work in it. The course equips students well to work in the field of radiotherapy, to undertake postgraduate work or to move into other fields requiring a science base.*" They outline the main challenges for the future as being:

a) To review the course content and to implement more problem based learning.

b) To collaborate on development of a research programme within the Academic Unit of Clinical Oncology.

c) To strengthen the links with the academic department of Radiation Oncology now in St Luke's and in future in the comprehensive cancer centre.

REVIEWERS' SUMMARY OF CONCLUSIONS AND MAIN RECOMMENDATIONS

1. The School of Radiation Therapy is providing excellent training for radiation therapists and meets all the standards expected of such a school. Criteria from the Joint Validation Council in the UK and from the Training Standards in Holland have been used as a baseline reference for these standards.

2. The School enjoys excellent facilities with the recent move to the Trinity Centre at St James's Hospital. Teaching opportunities, physical surroundings and possibilities for collaborative research have all been enhanced by the move of the School.

3. The School of Radiation Therapy particularly benefits from being within the Academic Unit of Clinical Oncology. We feel that this is an appropriate structure for the future, with important potential for collaboration and synergy in research and teaching. The research activities of the School of Radiation Therapy should be embedded in the academic unit and we have encouraged them to develop a common strategy plan for the next five years focusing on a few strong themes. In time the academic unit could be extended to encompass epidemiology of cancer and oncological surgery to bind the working forces of oncology and further develop synergies.

4. We advise that the relationship of the school with the main clinical Department at St Luke's should be strengthened. In order to do this, it would be of benefit if there were a clinical tutor(s) available at all times for teaching and assessment purposes. This would enable an assessment to be undertaken in a simplified but standardized manner.

5. Currently, there are limited opportunities for career enhancement of radiation therapists. Continuing professional development should be encouraged and promoted e.g. masters and postgraduate training of selected radiographers which would subsequently lead to career enhancement and promotion.

6. We understand that according to the excellent document "The Development of Radiation Oncology Services in Ireland" there will be two comprehensive cancer centres in Dublin. We fully support this development, which will encourage multidisciplinary care. We consider it very important that the School of Radiation Therapy is situated within a comprehensive cancer centre. The present isolation of radiotherapy facilities away from a general teaching hospital militates against development of good training opportunities for therapeutic radiographers.

7. There are developments in molecular medicine in relation to oncology, which are facilitating the individualization of treatment. Links with the Institute of Molecular Medicine and its biobank are likely to be increasingly important for optimizing treatment and for training opportunities. The School of Radiation Therapy and the comprehensive cancer centre should ideally be sited near the Institute of Molecular Medicine.

8. Feedback from the students indicated that they value the broad base of knowledge, which a general science degree brings. However, they feel that some of the courses in the first two years could be made more applicable to their chosen field of cancer work. The recent enlargement of the teaching staff makes review of the curriculum and its delivery feasible. We would encourage the development of *multidisciplinary* problem-based learning which would involve the students more actively in their studies e.g. the physiological, biochemical, anatomical, therapeutic aspects of breast cancer.

9. Increasing emphasis should be given to formative assessment, particularly in the first two years, where there seems to be an emphasis on summative assessment with dependence on examinations. The Academic Unit of Clinical Oncology, including the School of Radiation Therapy, should continue to maintain as much as possible close links with the School of Physic and share teaching facilities and developments.

10. Radiation Oncology is a field which is evolving rapidly. To ensure continuous updating of knowledge and training, all new teaching staff should be encouraged to maintain active working links with direct patient care.

Specific recommendations for the School:

1. The treatment planning room, one of the best in Europe, is under utilized. We advise not only that its use within the school is developed and optimized but that it is also used collaboratively with other schools.

2. There should be clear structured documentation of the yearly timetable: seminar and lecture titles, references and book lists should be provided so that individuals have a clearer idea of what to expect each week, especially in relation to the physics course.

3. We advise introducing limitations to the length of a thesis (e.g. maximum 50 pages) and to identify a supervisor for each thesis. Whenever possible, publication should be encouraged.

4. Due to the higher number of students, more formal student representation for each year is required.

5. We advise review of the curriculum incorporating senior students' ideas for possible improvements. More dedicated teaching for radiation therapists in addition to the joint sessions with medical students should be encouraged.

6. We suggest starting the curriculum with an induction week to include general concepts of oncology and radiotherapy, and a visit to a department of radiotherapy and a chemotherapy ward.

7. Postgraduate training could be provided in the following areas with expertise which already exists in the School:

   - radiation protection
   - brachytherapy
   - dosimetry
   - statistics for clinical trials
   - radiotherapy planning.

8. The anatomy course could be more closely related to imaging, with more involvement of radiologists. This could in part help with the shortage of staff in the Department of Anatomy.

9. There should be specific teaching on the whole process of quality assurance in radiotherapy.

10. Increased information on chemotherapy and surgical oncology would allow students to answer patients' questions more easily. This would be facilitated by the recommended proximity of the school to a multidisciplinary comprehensive cancer centre.

11. A place for social contacts between the students in various years would be an asset.

12. Access to scientific journals on line is available in the library. There could be an introduction to the use of these resources at the start of the course. Hard copies of a few reference journals might also be made available in the school.

13. Formal training in communication skills using one of the established models would increase the students' confidence in dealing with patients.

4. RESPONSES FROM THE SCHOOL AND THE DEAN OF HEALTH SCIENCES

The Dean of Health Sciences comments that the reviewers' report *'is complimentary of the School'* and notes that it '*identifies the importance of the School's links with the new Academic Unit of Clinical Oncology'*. He states that "*the College's restructuring plans and new resource allocation model will have a significant impact on the Faculty of Health Sciences. The recommendations of the reviewers' report will influence the Faculty's development plan in respect of radiation oncology, its School of Radiation Therapy and related developments shared with the teaching*

hospitals. Whilst the primary focus of the University is on educational standards, these are strongly influenced by the health service priorities in radiation oncology'.

The Dean notes that the reviewers make reference to the recommendations that there should be two comprehensive cancer care centres in Dublin, one on the north side and one on the south side of the city. The Dean comments that '*this is a crucial issue for patients but also has profound implications for the College and its teaching hospitals"*.

The Dean indicates that the report *"identifies the importance of a multidisciplinary approach in student-centred education, formative assessment methods and direct links with patient care for both staff and students"* and states that these principles should apply to all of the clinical schools in the Faculty. He notes that discussions are to take place with St. Luke's Hospital on a new teaching agreement that will take into account the recommendations contained in this report.

The Head of the School reports that the School has already made some revisions to the curriculum leading to a more problem-based approach and that the School has begun to address several of the suggestions of the reviewers. The Dean indicates that the Faculty "*will be supportive in addressing the recommendations, subject to the resource issues and the proposed Faculty reforms*".

The Dean recommends that the concerns expressed in the report about the "*limited career enhancement opportunities for radiation therapists"* should be considered by the School. He considers that the report illustrates the interdependence of education, training and patient services in the Faculty of Health Sciences and that the developments required in the School of Radiation Therapy will *"be affected by national policies on health services and have significant implication for our teaching hospitals"*. He suggests that the College needs to be proactive in these developments.

In conclusion, the Dean remarks that the School of Radiation Therapy is a critical component of the Faculty of Health Sciences and commends it for such a positive review. The Head of School says that the School is *"very grateful for the positive feedback overall*".

5. RECOMMENDATIONS TO COUNCIL

In addition to the School of Radiation Therapy addressing the detailed recommendations outlined in the review report, the following recommendations are made to Council in light of the review report and the responses from the Dean of Health Sciences and the School:

(a) that the School should

1. Anticipate and plan for changes in radiation oncology at hospital level
2. Implement the recommendations of the reviewers in relation to its teaching programme, including problem-based learning
3. In the context of Faculty developments and the development of postgraduate and research activity, consider the merit of combining with related research initiatives in the Faculty

(b) that the Faculty should

4. Recognise the importance to the School of close proximity to one of the new comprehensive cancer care centres to be established in Dublin
5. Support the School in developing its research performance
6. Ensure that the School can fulfil the requirements of the professional accreditation process

(c) that College should

7. Ensure that the School's development complies with the College's strategy to be a research-led institution of international standing
8. Ensure that the School is positioned appropriately within the new structures.

John Hegarty
Provost
