

## The research agenda and the role of the therapeutic radiographer: The College of Radiographers perspective

Rachel Harris, Charlotte Beardmore

*The Society and College of Radiographers, Mill Street, London, UK*

### Abstract

This article reflects on the influences on current radiotherapy practice and the key role that Therapeutic Radiographers have in the management of cancer care and the delivery of treatments. In particular the Cancer Reform Strategy is discussed which clearly highlights the many challenges related to cancer. Changes in societal and scientific understanding will demand that the most appropriate and evidence-based care is provided for patients, underscoring the need for evidence through research, to underpin every aspect of daily work if patient outcomes are to continue to improve. In October 2005, the Society and College of Radiographers published: *'Research and the Radiography Profession—A Strategy and Five Year Plan'*. This is an ambitious document, which sets out expectations for the appreciation and use of substantiated research involvement at all levels of practice. Sections of this document and the relevance to radiotherapy practice are discussed. Alongside this, the career progression model for radiography continued to be driven forward with support from the Department of Health. This model describing higher levels of practice for radiographers, at advanced and consultant levels, clearly identified research as a key requirement for the profession. The guidance document in 2006, from the Society and College of Radiographers *'Positioning Therapeutic Radiographers within Cancer Services: Delivering Patient Centred Care'*, further articulated these expert roles, in response to the changing drivers within cancer and across the radiotherapy pathway. In conclusion, research must become a fundamental component of everyday radiotherapy practice as it will verify professional standards of care and sustain the future of the profession. To contribute to the wider cancer agenda it is imperative that all therapeutic radiographers, from practitioner to consultant level, participate in and lead research.

### Keywords

research; evidence-based practice; research strategy; research activity; role development

One of the objectives for which the Society and College of Radiographers is established is

To promote study and research work in radiography and radiotherapeutic techno-

logy and allied subjects and to publish the results of all such study and research.<sup>1</sup>

In 1991, the Department of Health published its first document emphasising the requirement for evidence-based health care and the need for standards of practice for the health professions.<sup>2</sup> The Society and College of Radiographers responded by forming a dedicated Research Group Working Party, comprising a

Correspondence to: Rachel Harris, Professional Officer for Research, The Society and College of Radiographers, 207 Providence Square, Mill Street, London, SE1 2EW, UK. E-mail: rachelh@sor.org

mixture of academic and clinical researchers from various disciplines of the profession. In 1994, this group developed the College's first strategy, detailing the importance of embedding research as a core requirement for the profession,<sup>3</sup> while also highlighting the need for all radiographers to use evidence- and knowledge-based care. The Society and College of Radiographers also introduced into its Statements of Professional Conduct<sup>4</sup> the expectation that all radiographers need to actively participate in audit and research.

Since 1995, the standard radiography qualification for eligibility for registration and to practice as a Radiographer in the United Kingdom is a first degree; research is embedded in all pre-registration educational programmes for the profession.<sup>5</sup> There is a consensus of opinion that qualified practitioners at all levels must also be able to read, comprehend and utilise research findings, thereby developing a professional body of knowledge.<sup>6</sup> The Society and College of Radiographers Learning and Development Framework for Clinical Imaging and Oncology<sup>7</sup> and Strategy for the Education and Professional Development of Radiographers<sup>8</sup> articulate the learning outcomes required for registration as a radiographer and for levels of post-registration practice relating to research. As a radiographer progresses to more expert practitioner roles at advanced and consultant level their input and responsibility to research must increase and be focussed around their area of practice and the need to develop higher level research skills will be essential.

- All practitioners should be research aware.
- Advanced practitioners should contribute to research and must use evidence in their practice.
- Consultant practitioners should be advancing in practice and be leaders in their field, who are advising and supporting others. They will have a crucial function in ensuring research and practice are effectively managed.<sup>7-9</sup>

Despite numerous government and professional publications indicating that research and audit must be conducted in clinical practice, radiographers are currently less research active

than their Allied Health Professional and Nursing peers. Radiography often uses knowledge attained by other members of the health professional team; fuelled by a tradition in radiotherapy of a clinical oncologist or a health care scientist, such as a physicist, taking the lead in clinical research projects. This combined with a body of knowledge, which is often subjective and traditionally based, can leave therapeutic radiographers vulnerable as being labelled 'semi-professional'.<sup>10,11</sup>

It is time for rethinking and new definitions of clinical models, as therapeutic radiographers will need to possess more than their current clinical knowledge if they are to meet new developments, government expectations, and patient demands and changes in attitudes.<sup>12,13</sup> All practitioners will need to become more autonomous and questioning, ensuring that they participate in and lead research, within their specific areas of clinical expertise while also reflecting and responding to emerging evidence.

The policy of the SCoR is to encourage all radiographers to use research in their practice, thus securing for their patients the best evidence and knowledge based care available.<sup>14</sup>

In 2007, the Department of Health published the *Cancer Reform Strategy*,<sup>15</sup> which articulates the need for further service improvements for cancer patients by ensuring clinical results continue to improve, increasing long-term survival rates and narrowing the gap between the United Kingdom and those countries with the best survival outcomes in Europe and the world. The Cancer Reform Strategy states that to achieve this and ensure that activities are focussed appropriately, better quality data are required to inform the direction of future research activities. The establishment of a national repository of cancer data via a new body the National Cancer Intelligence Network, will enable the National Cancer Research Institute (NCRI) to have a much more informed picture of cancer services nationally. This can also be shared with commissioners at a local level, for their specific local

populations; and will help identify where future research activities and funding are required, both at the national and local levels, to continue to strive to improve treatment outcomes for patients.

The Cancer Reform Strategy highlights the many challenges related to cancer. Changes in societal and scientific understanding will demand that the most appropriate and evidence-based care is provided for patients. This clearly demonstrates the need for continual development of the knowledge base through research, to ensure that evidence does underpin every aspect of daily work if patient outcomes are to continue to improve.

To achieve this the Cancer Reform Strategy states that initiatives driving cancer prevention will be essential, inequalities for patients must be reduced, and education, research and development will be vital to build on existing good practice and to continue to move services forward.

With regard specifically to radiotherapy treatment, the Cancer Reform Strategy endorses the work of the National Radiotherapy Advisory Group.<sup>16</sup> Of importance is the need for all radiotherapy centres to be able to deliver the best possible treatment regimens for their patients. This is a challenge as lack of investment in both workforce and equipment has resulted in limited research and development.<sup>17</sup> Hence, widespread implementation of new technologies such as intensity-modulated radiotherapy (IMRT) and image-guided radiotherapy has not been possible and available for all patients, resulting in an unacceptable variation in accessibility for patients across the United Kingdom. This is not likely to improve unless a co-ordinated approach is taken. The work of the Royal College of Radiologists multi-professional Radiotherapy Development Board, established in late 2007, will be instrumental in leading the identification of national radiotherapy research projects and assisting in the reduction of inequalities in radiotherapy provision. All professional groups will need to have joint input into this research agenda, thereby ensuring a cohesive, cost effective, effi-

cient development of a high quality service—Therapeutic Radiographers are key in this work, being the only professional group with the knowledge and responsibility for overseeing the entire radiotherapy patient pathway. Therapeutic Radiographers provide patient care and support, while delivering the highly technical and evolving radiation treatments along this complex pathway.

In 2000, The Department of Health<sup>18</sup> recognised some of the problems in clinical practice in implementing new developments and advances in patient care. The document noted that health care professionals need to be able to embrace continuous professional development, be more involved in life-long learning and practice development and develop their skills and expand or change roles as required.<sup>11</sup>

Across the United Kingdom, there is still a lack of radiotherapy radiographer researchers whose sole remit is to lead research within their centres. Overall, there is limited evidence of posts and career pathways being established to address this imbalance; many therapeutic radiographers are undertaking research as an extra to their other clinical duties and not as an integral part of their role. However, the increase in developments and treatment techniques within radiotherapy means the opportunity for radiographer led research is high. Therapeutic radiographers must establish and demonstrate their skills within their local centres and take the research agenda forward together with other members of the multidisciplinary team; this requires support and engagement from local service managers.

Disturbingly, a 2003 NCRI assessment noted that radiotherapy research is actually in decline.<sup>19</sup> This would suggest that, potentially, research and evidence-based practice are not keeping pace with the surge in technology.

Numerous barriers to research have been cited,<sup>12,14</sup> but the three top obstacles to undertaking research at both an individual and team level are lack of time, lack of resources and lack of knowledge of research methodologies.<sup>11</sup> The recent United Kingdom Clinical Research

Collaboration document on improving nurse researcher careers<sup>20</sup> emphasised the need for investment in research education and training and in facilitating career pathways.

There is an urgent need for research to underpin radiotherapy clinical practice, with radiographers having the 'skills and confidence' to facilitate such work.<sup>21,22</sup> Good leaders, in both the clinical and academic settings, are required who will influence change and act as a catalyst for innovative work.

In October 2005, the Society and College of Radiographers published its second, more detailed research strategy: *Research and the Radiography Profession—A Strategy and Five Year Plan*.<sup>14</sup> This is an ambitious document, which sets out expectations for the appreciation and use of substantiated research involvement at all levels of practice. The document recognises that not all radiographers can be involved in research all of the time and, therefore, advocates the need for some radiographers to be in defined research roles and to have some centres of research expertise. These individuals and centres will be expected to influence the national health care plan and research priorities<sup>23</sup> and have a strong publication and dissemination record.

It is imperative that research activity is recognised as an integral part of a radiographers' work, because it identifies innovative ways of working, provides information on the costs and effectiveness of health technologies and provides the evidence for the delivery of health care services to increase the quality of patient care.<sup>24,25</sup>

The quality and recognition of the research work undertaken will verify the effectiveness of professional standards and enable radiographers to deliver the best available proven care.<sup>14</sup>

The Society and College of Radiographers promotes the need for all radiotherapy departments in the United Kingdom to have their own 5-year strategic plans for research, ensuring that research becomes an elemental part of their

departmental practice.<sup>14</sup> This will require support from Trusts and a duty from service managers to provide a creating and sustaining environment for their staff.<sup>18</sup>

Investment in local capacity for radiotherapy is now recognised as an urgent requirement, with Strategic Health Authorities being asked to respond to the goals. The main goal being that by December 2010 all centres must be able to meet the 31-day waiting time standard for all patients, irrespective of whether Radiotherapy is the first definitive treatment. This will be a challenge. With the introduction of national data collection benchmarking service productivity, there will be monitoring and comparison between service providers.<sup>26</sup> Investment in the right workforce with the right skills will be key, ensuring that those involved in service delivery are equipped to employ radiotherapy protocols and procedures that have been effectively and efficiently researched prior to full clinical implementation. Radiotherapy has suffered from a lack of focussed research evidence as highlighted by the limited high-level evidence to support dose fractionation regimens. In the Royal College of Radiologists publication, *Dose Fractionation Guidance*,<sup>27</sup> it was only possible to make ten 'A grade' recommendations for radical treatment and six for palliative treatment.

Therapeutic Radiographers comprise over 50% of the overall radiotherapy workforce and are crucial to developing the service. The acknowledgement of their skills, with the need to fully implement the 'four-tier' career progression framework, stated as a key recommendation within the Cancer Reform Strategy, is recognition of this. The guidance document in 2006, from the Society and College of Radiographers *Positioning Therapeutic Radiographers within Cancer Services: Delivering Patient Centred Care*,<sup>28</sup> further articulated these expert roles, in response to the changing drivers within Cancer and across the Radiotherapy pathway. Expert practitioners working at advanced and consultant levels who are site specific, technical, and community liaison experts<sup>28</sup> must continue to raise standards and outcomes for patients. These individuals will have key

research goals and be involved in targeted multi-professional research.

Over the last few years, the Society and College of Radiographers Research Group Working Party has endeavoured to highlight the importance of research within the profession. They also input into national agendas and the wider health care environment thereby promoting the skills and values of radiographers in collaborative, inter-professional teams. Additionally, they provide a communication link and research advice resource for members, with dedicated web pages on the Society and College of Radiographers website.

Lack of resources and a deficiency in stable funding have been noted by radiographers as stifling research.<sup>18</sup> To confirm its commitment to research within the profession The Society and College of Radiographers has forged links with industrial partners to provide financial support for radiographers undertaking research, via a dedicated College of Radiographers Research Award Fund. All applications are considered on merit; however, the current main research priorities determined for therapeutic radiography are

- skin care (updating skin care instructions and department adherence to current standards);
- patient information (including audit of information giving processes and leaflets, variety of information provided, areas of good practice, or innovative approaches to information giving, and to trial new information approaches to standardise provision);
- rectal filling/bladder filling (for prostate conformal or IMRT therapy);
- follow-up care (investigating post-treatment care and the role of the therapy radiographer in this process);
- planning/contouring (advanced practice in planning and assessment of accuracy of outlining contours).

Co-ordination of these research activities will be essential to build the evidence base across the whole service. The mandatory collection of the national radiotherapy data set will come into

effect from 2009 and will also drive intelligence about the service forward. However, more data are required to support information about the outcomes from treatment and to direct future research.

Therapeutic radiographers have a key role to play in the management of cancer care and the delivery of treatments. To contribute to the wider cancer agenda it is imperative that all therapeutic radiographers, from practitioner to consultant level, participate in and lead research and commensurate with their competencies and level of practice. Role development, continuous education and acquisition of new skills are the way forward for the profession. Opportunities for research training must increase and research involvement must be recognised as a legitimate part of professional activity. Research must become a fundamental component of everyday radiotherapy practice as it will verify professional standards of care and sustain the future of the profession.<sup>12,14</sup>

## References

1. The Society of Radiographers. Amended Memorandum and New Articles of Association and Members' Handbook. London: SoR, 2004 (quote page 5).
2. Department of Health. Supporting Research and Development in the NHS. London: DH, 1991.
3. The College of Radiographers. A Strategy for Research. London: CoR, 1994.
4. The College of Radiographers. Statements of Professional Conduct. London: CoR, 2004.
5. Health Professions Council. HPC Standards of Proficiency—Radiographers. London: HPC, 2007.
6. Price R. Focus on research training. *Radiography Today*, October Edition, 1994.
7. The College of Radiographers. Learning and Development Framework for Clinical Imaging and Oncology. London: CoR, 2007.
8. The College of Radiographers. A Strategy for the Education and Professional Development of Radiographers. London: CoR, 2002.
9. Price R, Paterson A. Consultant practitioners in radiography—a discussion paper. *Radiography* 2002; 8: 97–106.
10. Nixon S. Professionalism in radiography. *Radiography* 2001; 7: 31–35.

11. Challen V, Kaminski S, Harris P. Research-mindedness in the radiography profession. *Radiography* 1996; 2: 139–151.
12. Harris R. Find and Deliver: research and practice in therapeutic radiography. *Radiography* 2000; 6: 225–226.
13. Smith T. Evidence based medical imaging. *Radiography* 2008; 14: 233–237.
14. The College of Radiographers. Research and the Radiography Profession: A Strategy Five Year Plan. London: CoR, 2005 (quotes pages 7 and 15).
15. Department of Health. Cancer Reform Strategy. London: DH, 2007.
16. Department of Health. The National Radiotherapy Advisory Group's report: Radiotherapy: developing a world class service for England. London: DH, 2007.
17. Royal College of Radiologists. Re-audit of waiting times. London: RCR, 2005.
18. Department of Health. Meeting the Challenge: A Strategy for the Allied Health Professions. London: DH, 2000.
19. ACORRN Research Radiographer Working Party. Gap analysis of role definition and training needs for therapeutic research radiographers in the UK. *Br J Radiol* 2007; 80: 693–701.
20. UK Clinical Research Collaboration. Developing the best research professionals—qualified graduate nurses recommendations for preparing and supporting clinical academic nurses of the future. London: UKCRC, 2007.
21. Lee N, Gambling T, Hogg P. Leadership in research. *Radiography* 2004; 10: 69–73.
22. Gambling T, Brown P, Hogg P. Research in our practice—a requirement not an option: a discussion paper. *Radiography* 2003; 9: 71–76.
23. National Health Service. The NHS Plan: a plan for investment, a plan for reform. London: NHS, 2000.
24. National Institute for Health Research. Research in the NHS—HR Good Practice Resource Pack. London: NIHR, 2007.
25. Department of Health. Best research for best health. London: DH, 2006.
26. Department of Health. The National Radiotherapy Data Set (RTDS) Project—background information. London: DH, 2007.
27. Royal College of Radiologists. Radiotherapy Dose Fractionation. London: RCR, 2006.
28. The College of Radiographers. Positioning Therapeutic Radiographers within Cancer Services: Delivering Patient Centred Care. London: CoR, 2006.