

Professor Michael Richards
Department of Health
Richmond House
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28th April 2008

SUBJECT: Cancer Reform Strategy – Comments from the BIR

Dear Professor Richards

The recently published Cancer Reform Strategy (CRS) has attracted the interest of BIR members, and we have sought their comments on this very important document. I would like to share with you these comments to ensure you are fully informed of the thinking of our membership, which as you know is drawn from the major professional groups which are active in radiology and radiotherapy; these being clinicians, radiographers, medical physicists and other scientists (such as radiobiologists and computer scientists).

Firstly we would like to congratulate you and your team for attempting, and largely achieving an excellent summary and overview of the present status of cancer services in the UK. We welcome and support the additional investment that the CRS announces.

There are however a number of comments from our membership which I felt it important to bring to your attention. I have categorised these for simplicity into *general comments*, which includes issues of training and finance, and into *technical comments*, dealing with more specific issues of the different approaches to cancer diagnosis and treatment. In order to present these to you in a manageable form, I have prepared an executive summary of important issues and questions, which is then followed by a more extended discussion of details.

As an Institute with a significant educational focus, we will be very keen to hear your responses to the points raised below since these may help to inform the activities of our scientific committees and the development of our scientific meetings programme over the coming years. We plan to provide our members with feedback on our correspondence and would like to keep them abreast of developments.

I hope you find these comments to be useful and we look forward to hearing your response. .

Yours sincerely

Dr Stuart Green
Vice President, BIR

Executive Summary

This section summaries the important issues and questions raised by our members on the CRS.

Linac provision and usage

Our members made positive comments on the increased linac provision announced in the CRS. However, concerns were expressed that while best use of equipment is desirable, there needs to be joined-up thinking which does not penalise specialist centres with more resource-intensive patient profiles, and that advancements in radiotherapy practice are not inhibited by the emphasis on fractions per linac per year. Overall, we feel that both patients and staff are best served by a focus on high-quality radiotherapy which must be retained while we strive for greater efficiency.

Staffing

One major concern raised repeatedly by our members is the failure of the CRS to mention in any way the important role played by Medical Physicists in the delivery of services to cancer patients. The text typically refers to clinicians and nurses and even figure 5 ('The expanding workforce') does not include statistics on scientists.

Training

We feel that some greater detail is required on staff-training, in particular in respect of:

- a) Medical Physicists. There is some uncertainty over training and career pathways for this group, who are vital to the continued improvement in the technical quality of radiotherapy in the UK.
- b) Staff at PCTs who will, the CRS suggests, in future take much greater roles in follow-up and toxicity assessment after cancer treatment.

We would encourage development of a detailed training strategy document to follow the CRS, covering both initial course-content for educational providers, and major topics for continuing professional development for each staff group.

Funding

There is a general lack of clarity on how funding will actually be distributed for the initiatives described in the CRS. We would very much like hear more details on how the funding will be distributed

What guarantees are in place to ensure that the funding mentioned in the CRS is actually spent on cancer, and how will this be audited?

Research and Development

NHS staff are (or should be) active in applied research and in translating academic and technical advances into sound clinical practice. It will be a difficult and protracted process to achieve the anticipated advances in radiotherapy unless some acknowledgement is made of the resources and effort needed to achieve this.

ACORRN has provided a vital stimulus for radiotherapy research, but now there is great concern on the immediate issues surrounding funding for this important resource. I have previously written to you to express our concerns over the future of ACORRN and our willingness to help in this area.

Technical Issues

In the section of our letter describing more technical issues, I hope that our suggestions are useful. We have provided what we hope are useful offers of assistance in areas such as:

- Particle therapy
- PET/CT
- Targeted radionuclide therapy
- Digital mammography
- Screening for lung cancer

In all of these areas we are keen that the knowledge within our scientific committees and the educational focus of the Institute are used to bring positive benefits for patients.

Cancer Reform Strategy: comments and questions from the BIR

1. General Comments

Linear provision and usage

We note the emphasis in the CRS on the efficient use of linear accelerators, and in particular the data on variations in delivered fractions per linac which have been observed in England. We are concerned that while best use of equipment is desirable, there needs to be joined-up thinking which does not penalise centres with unusual workloads (for example a large proportion of paediatric cases requiring general anaesthetic), and also that advancements in radiotherapy practice are not inhibited by the emphasis on fractions per linac per year. For example, many centres are now equipped for, and keen to progress with, greater use of image-guided radiotherapy and perhaps for respiratory-gated and adaptive radiotherapy. We believe that such advances are to the benefit of patients, but may (certainly initially) reduce linac efficiency.

As well as delivering benefits for patients, we are keen to ensure that radiotherapy also remains an area which is attractive to staff. We feel that in this respect we already have to contend with a lack of balance in the coverage of radiotherapy in the media, with a positive focus generally given to new drug treatments and a negative (accident-driven) focus on radiotherapy. We would note that the recent report by the Chief Medical Officer has not improved either staff morale or public perception of radiotherapy. Overall, we feel that both patients and staff are best served by a focus on high-quality radiotherapy which must be retained while we strive for greater efficiency.

Staffing

We are very concerned that in the discussion of expansion of radiotherapy services and of the resulting changes to workforce and training, there is no mention of physicists, technologists, dosimetrists or of medical physics staff in general. The text typically refers to clinicians and nurses and even figure 5 ('The expanding workforce') does not include statistics on scientists. In addition to their service support and development roles, physicists in radiotherapy fulfil the legally required role of Medical Physics Experts under the IR(ME)R 2000 regulations. The changes discussed in the various NRAG reports and reflected in the CRS would require very significant expansion in numbers in the medical physics staff groups, at a time when training commissions are actually decreasing. This is a matter for great concern.

Training

This is a very important issue as we seek to produce a workforce with both the capacity and capability to allow the increases in throughput suggested as necessary in the CRS. We feel that some greater detail is required on staff-training. The workforce issue is critical since the likelihood is that with the increasing complexity of the delivered treatments and other interventions, an ever-increasing level of teamwork and skill-mixing will be required.

In respect of training we would like to emphasise again the critical role played by medical physicists in the delivery of radiotherapy and imaging services. There are plans to reform the training process for clinical scientists – and while the future is uncertain there is some concern amongst this professional group. Supporting a major expansion in technical interventions for cancer patients will be even more difficult if training and career pathways are unclear or inappropriate.

The CRS proposes moving much treatment follow-up and surveillance into Primary Care Trusts (PCTs) which brings new and inexperienced staff into a role currently undertaken by cancer clinicians, specialist nurses and therapy radiographers. We are concerned that unless major and widespread training programmes are put in place, toxicity assessment and monitoring for adverse radiotherapy events could be limited. Experience also shows that this move will be unlikely to yield financial savings so additional funding will be required to enable the proposed change of provision.

Specific mention is made of training support for laparoscopy for surgeons, but this is only part of wider training and education needs in oncology. We would encourage development of a detailed training strategy document to follow the CRS, covering both initial course-content for educational providers, and major topics for continuing professional development for each professional group. At present, resources (both in terms of time and money) to allow attendance at educational meetings are in sharp decline. This has become an easy target for hospital Trusts that are understandably keen to meet immediate and pressing waiting-time and financial targets.

Funding

We are keen to have some reassurance from you on the degree to which the funding identified in the CRS is guaranteed to be spent on cancer services. We are aware of the complicated language used by regional networks where commonly used terms (such as *ring-fenced*) may sometimes be used in unconventional ways. What guarantees are in place to ensure that the funding mentioned in the CRS is actually spent on cancer, and how will this be audited? We should note that while the auditing of fractions per linac is already happening on a local level, funders appear to have little knowledge of additional funding streams brought by the CRS.

In "Diagnosing Cancer Early" there are unmentioned resource implications especially for diagnostic radiology; there is no mention of resources required for diagnosing recurrence; there is no mention of increased support for patients within screening programmes who show false positive results, of which there will be more and more as screening programmes expand.

We are grateful that acknowledgement has been made that more patients meeting the 31 days standard will have "largest impact on radiotherapy". We are keen to receive assurances that the necessary resources will be put in place to meet this standard.

Overall, we would very much like hear more details on the routes and distribution of funding for the initiatives described in the CRS.

Research and Development

While it may not be the purpose of the CRS to focus on cancer research, our members have also noted how little of the document is devoted to this topic. In radiotherapy there is an important need for "translational research" in the contexts, for example of image-guided, respiratory-gated or adaptive radiotherapy. NHS staff are (or should be) active in applied research and in translating academic and technical advances into sound clinical practice. It will be a difficult and protracted process to achieve the anticipated advances in radiotherapy unless some acknowledgement is made of the resources and effort needed to achieve this.

In Chapter 11 the CRS focuses on the role of the National Cancer Research Institute (NCRI) in guiding cancer research in the UK. UK research is in general of outstanding quality. However, we are concerned that the composition of the NCRI Board will mean that the current comparative lack of support for radiotherapy related research is embedded into the cancer research structures of the UK. Efforts should be made to involve a wider community of funders (for example from the Engineering and Physical Sciences Research Council) and to formally evaluate the UK research portfolio in an International context.

The Academic Clinical Oncology and Radiobiology Research Network (ACORRN) has provided a vital stimulus for radiotherapy research, but now there is great concern on the immediate issues surrounding funding for this important resource. I have previously written to you to express our concerns over the future of ACORRN and our willingness to help in this area.

2. Technical Comments

Particle therapy

The report is to be welcomed in so far as an expansion of megavoltage x-ray treatment will be allowed and that proton therapy will be permitted, although it is disappointing that there is not a stronger statement with an early date for facilities within England. We must observe that the emphasis on x-ray therapy is now out of step with developments in other advanced countries and unfortunately it appears that England will not possess truly world class facilities for radiation cancer therapy for a very long time.

The Institute would be pleased to help facilitate arrangements for an expansion in particle therapy facilities, which are likely to emerge as the treatment of choice in many more clinical situations. We are also keen to contribute to the national debate on how best to integrate proton therapy into the NHS, and to help guide selection of an appropriate mix of technologies for implementation in the UK. We intend to use our educational remit to allow greater discussion and dissemination of these ideas amongst radiotherapy professionals in the UK.

It should also be noted that investment in proton therapy might have a positive effect on the efficiency of NHS departments since some of the most clinically and technically demanding (and therefore time-consuming) cases would be removed for treatment at specialist centres.

PET /CT

PET/CT has a specific mention in the CRS and although the “scans in vans” scenario is evolving, special effort will need to be made to ensure that image data is produced which is suitable for radiotherapy planning. In general, especially for patients with lung cancer, patients will need dedicated planning PET/CT scans in the treatment position. Collaboration with local radiotherapy staff will be essential to achieve this. In the future there will also be an issue with regard to non-FDG tracers for therapy planning and personalised treatment – something which should be considered on the timescale covered by the CRS.

Targeted radionuclide therapy

There is a significant focus on radiotherapy and chemotherapy in the CRS, but there is almost no mention of targeted radionuclide therapy, save that there should be increased use of radioactive iodine for thyroid cancer (Box 22), and targeted therapies for haematological cancers. It would be interesting to see the basis for the first statement given that radioiodine is a treatment of choice and has been used for over 60 years.

These therapies are usually delivered at major cancer centres (but we would note that current service provision is not well known and that the British Nuclear Medicine Society is currently surveying the UK situation). Is the suggestion in the CRS intended to lead to the establishment of a greater number of centres delivering this therapy or to an expansion in capacity at the existing major centres? There is an increasing range of radio-labelled targeting agents which need to be explored scientifically and systematically to allow their implementation into the health service. Our understanding is that additional resources will be required to deliver service expansion and we are keen to see such expansion undertaken in an organised manner.

We wonder whether the details related to this area of radionuclide therapy may be falling between the remits of NRAG and NCAG. Its multidisciplinary nature requires a coherent national strategy that has yet to be developed.

The BIR already has an active working party examining issues in the dosimetry of targeted radionuclide therapy, with the aim of producing recommendations on best practice. We will be interested to hear from you on whether we should consider providing a greater focus in our scientific programme on this area, and would welcome the opportunity to be involved in any discussions related to a national strategy.

Digital mammography

Whilst welcoming the commitment to digital mammography to ensure image quality remains high when imaging younger women with higher fractions of dense glandular tissue, consideration should be given to the integration of new digital services with existing film/screen based services. The commitment to have 'at least one digital unit' available in each centre runs the risk of developing disjointed and ineffective services, given the need to access previous images. Consideration should be given to properly funding a coherent roll-out of integrated digital breast imaging.

Lung cancer screening

The development of trials to assess the viability of a UK lung cancer screening programme is long overdue. However, we would like to see trials being designed that assess cheaper imaging alternatives to CT such as 'dual-energy' chest x-ray or 'chest tomosynthesis'. It is important that we assess all new technology that could influence such a screening programme, not just CT. We would note the recent announcement by NIHR in this area appears to be restricted to CT.

Professor Mike Richards
Department of Health
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18 January 2008

Dear Professor Richards,

Re: ACORRN

We have learned that funding is to cease shortly for the Academic Clinical Oncology and Radiobiology Research Network (ACORRN). The BIR exists to encourage and support the study and practice of radiology, radiobiology and the medical applications of nuclear science. In the area of radiotherapy we maintain three committees dealing with *radiation and cancer biology*, *oncology* and *radiation physics and dosimetry*. The BIR considers itself to be a stakeholder in ACORRN and has had representation on the ACORRN Steering Committee since its inception.

We are very concerned that the loss of ACORRN will leave a considerable deficit in the UK infrastructure to support research in the science which underpins radiotherapy. In our view there is very great potential for new techniques such as targeted radionuclide therapy, particle (proton) therapy, and intra-operative radiotherapy, as well as improvements to be derived from IMRT and IGRT. These will all need supporting science as well as evaluation in clinical trials so it is essential that a strong infrastructure exists in the UK to foster and support a radiotherapy-oriented research community.

A cessation of ACORRN activities at this time seems to us to contradict the NCRI review from just a few years ago suggesting there was an absolute need for a body to try to "salvage" radiation based research in the UK, for the benefit of cancer patients. The success of ACORRN in fostering such a research community has in our view been substantial, starting from a very low base level. Thanks to ACORRN, a fledgling network of researchers is now in contact. For this network to develop into an active research community will take support over an extended period of time. Our first request is therefore that the decision to cut funding for ACORRN is reconsidered and this organisation is allowed to continue in its present form for a further period, at least to allow a more managed transition.

If a straightforward continuation of ACORRN in its present form is not possible, we would like to explore with you the reasons behind this decision and help to chart a way forward. It may be that new structures and functions are appropriate but ACORRN has built-up some administrative expertise which should not be lost. The BIR is prepared to play a proactive role in taking forward the work initiated by ACORRN, but we would need to explore what funding might be available to support this.

We look forward to hearing from you at your earliest convenience.

Yours sincerely,

Dr Stuart Green
BIR Vice-President

Sent: Tuesday, September 09, 2008 2:34 PM

To: Stuart Green

(...) having read the documents I believe I can give positive feedback on almost all fronts.

1. Linac provision: Your comments are very much in line with the thrust of the NRAG report on which the CRS recommendations were founded. We will, of course, be looking for year on year improvements in quality of radiotherapy as well as efficiency and the much needed increase in capacity.
2. Staffing and training: I acknowledge that the role of medical physicists may not have been adequately mentioned in the CRS, but that does not mean their role is not fully recognised by myself and colleagues at DH and in the Cancer Action Team. Sue Hill, Chief Scientific Officer at DH is leading a programme of work on this and on training issues.
3. Funding: The CRS makes it clear that PCTs will receive adequate funding to cover all the commitments set out in the strategy. The roles of the National Cancer Action Team are to support PCTs and Networks in developing appropriate action plans and to monitor progress in terms of outputs.
4. Research: As you are probably aware the NCRI Board is currently considering how best to support and foster research related to radiotherapy. Having been closely involved in the discussions on this I am optimistic that progress can now be made over the next few months.
5. Technical issues: These are all important areas and I can assure you that my team and I will wish to continue working with experts from BIR on these issues.

Best wishes

Mike