Quality management in radiotherapy – a systematic approach

Quality management in radiotherapy as a concept has been around since the late 1990s, but now a national special interest group is hoping to encourage others to adopt best practices. The group explains why quality management is important and how can you get involved.

A QUALITY MANAGEMENT SYSTEM (QMS) provides a documented, systematic approach to quality assurance. It has been widely recognised that an established QMS within a radiotherapy department will not only improve work practice and reduce the risk of errors, but will also empower staff, patients and other stakeholders with confidence in the standard of care provided.

This is achieved using a multi-disciplinary approach involving radiographers, oncologists, radiotherapy physics staff, nursing staff and clerical workers throughout the entire radiotherapy process.

Quality management initiatives were introduced in the early 1990s after two major radiotherapy incidents occurred in the UK. Following decades of learning and development, QMS are now well embedded across the UK, supported by European and National guidelines.

However, radiotherapy professionals who specialise in quality management often feel isolated in such a niche area and therefore benefit immensely from establishing radiotherapy quality networks.

Originally, Quality Assurance (QA) was defined by the World Health Organisation as: "All those planned and systematic actions necessary to provide adequate confidence that a structure, system or component will perform satisfactorily in service and this implies in radiotherapy as all procedures that ensure consistency of the medical prescription and safe fulfilment of that prescription as regards dose to the target volume, together with minimal dose to the normal tissue, minimal exposure to personnel, and adequate patient monitoring aimed at determining the end result of treatment".

Historically, all radiotherapy procedures are summarised under the term 'QA' and are often used interchangeably with more readily defined physical and technical aspect of equipment, dosimetry and treatment delivery.

However, with the advancement in technology, the radiotherapy process is becoming more complex and involves many staff and steps from planning through to delivery of treatment.

Many radiotherapy professionals appreciate the term 'quality' is much broader than technical maintenance and quality control of equipment and treatment delivery.

Instead, quality management (QM) denotes a comprehensive approach to all clinical, physical and administrative activities in the radiotherapy department.

QMS provides a framework that encompasses all necessary tools to ensure an integrated approach to implementing the requirements of national and international standards in regulatory, technical and service aspects. Radiotherapy quality professionals are at the forefront to ensure the quality of care is delivered and maintained to the high standard demanded by a modern clinical governance framework.

There are currently two regional Quality Networks working together to promote QM in radiotherapy Services: The London and South East Radiotherapy Quality Managers (LASER) group and The Midlands Organisation of Specialists in Quality Improvement for Therapeutic Oncology (MOSQuITO)

RT QUALITY SIG

THE LONDON AND SOUTH EAST RADIOTHERAPY QUALITY MANAGERS (LASER) GROUP

LASER was initially established in 1999 with only a handful of radiotherapy quality professionals at a time when QART was a relatively new initiative.

Today LASER consists of twenty-one NHS Trusts and independent radiotherapy service providers. The group not only provides peer support, but also a forum which facilitates the sharing of information, learning and expertise in all aspects of quality management.

Although the group has now reached its maximum size to remain effective, it actively encourages Radiotherapy Quality professionals who are not part of a network to establish similar regional networks, and often advises on ways in which this can be achieved.

LASER is actively involved in current issues facing radiotherapy departments. The agenda items at the quarterly meeting include the management of radiotherapy incidents and shared learning, accreditation programs, peer review, national radiotherapy dataset, feedback on audit programmes, the opportunity for peer support, information sharing and communication with government agencies and professional bodies.

THE MIDLANDS ORGANISATION OF SPECIALISTS IN QUALITY IMPROVEMENT FOR THERAPEUTIC ONCOLOGY (MOSQUITO)

The Midlands Organisation of Specialists in Quality Improvement for Therapeutic Oncology (MOSQuITO) is a multidisciplinary group which was first established in 1995 by 6 Midlands-based departments.

There are currently 9 departments who are active members, with additional departments from both within and outside of the region maintaining email contact and occasional meeting attendance.

The initial aims of the group included the mutual co-operation between departments for the development and implementation of Quality Management Systems within Midland based radiotherapy services, providing peer group support and advice in the process leading up to, and beyond each department obtaining certification to the ISO: 9001 Standards.

Following the success of the departments achieving ISO: 9001 certification via this 'self-help' method, the group has continued to develop - taking on further developments and project work.

This has included:

- poster presentations and an oral presentation at ISQua Conferences;
- setting up a regional audit training course which is run on a demand led basis and has now trained over 250 auditors;
- organizing a national study day & a national IR(ME)R workshop;
- the opportunity for inter-departmental auditing.
- Member departments benefit from:
- the sharing of information, experience, good practice and potential service developments;
- peer support during the implementation of new national guidance or standards, and transition to new versions of ISO9001;
- joint learning opportunities, for example - following study days and conferences.

WHERE WE ARE NOW?

A national Radiotherapy Quality Special Interest Group (RTQ SIG) has now been established, with its foundations embedded in the success of existing regional quality networks.

The group has the following aims and objectives:

- To maximise available resources for the benefit of good governance and quality management of member departments
- To offer expert advice and consultancy (based on a wealth of experience) on national issues which have an impact on the safe delivery and operational aspects of radiotherapy services
- To amalgamate national effort, with a multidisciplinary approach, to reduce the risk of harm and ensure a high standard of care is available to all radiotherapy patients
- To promote and support the role of specialised Radiotherapy Quality Professionals.
- To provide a forum in which Radiotherapy Quality Professionals can meet to exchange ideas and information
- To lead and drive the recognition, development and improvement of quality within radiotherapy.

With support from the Society of Radiographers, PHE and IPEM to have a multi-disciplinary forum for discussions and the sharing of information and support; it is our ambition to get the endorsement of the RCR at the earliest opportunity.

If you are interested to know more, you can find us on:

- The NHS networks: http://bit.ly/2n9WYMk
- SCoR website: http://bit.ly/2na5FGv
- Twitter: https://twitter.com/RTQSIG

In vivo dosimetry report published in BJR

NEW GUIDANCE on in vivo dosimetry has been published in the British Journal of Radiology. The document entitled 'In Vivo Dosimetry in UK External Beam Radiotherapy: Current and future usage' has been produced on behalf of the Radiotherapy Board.

Three years in the making, it reports the findings of a UK wide survey providing an up-to-date picture of IVD practice and provides recommendations on future usage. The authors discuss existing practice in the context of the evidence base for using IVD. They go further providing analysis of possible IVD solutions for radiotherapy addressing their benefits and limitations.

The report makes recommendations on local implementation of dose verification echoing the recommendations of the Chief Medical Officer in 2006. It supports the principle of risk assessed methods for ensuring the accuracy of dose delivered to the patient. Developing this theme it makes recommendations on future usage of diode based point dose verification and EPID based systems for advanced radiotherapy.

The report can be found at:
http://bit.ly/2n5N7Y0

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