1. Introduction

All patients should expect to receive a high standard of modern treatment during the delivery of the prescribed course of radiotherapy. The standard of radiotherapy treatment received by the patient should be independent of the time or day they attend for treatment. Delays or cancellations of individual treatment fractions should be minimised.

A high standard of treatment requires appropriate imaging and treatment planning. This requires competent technical and scientific staff across a range of specialties to prepare and validate the individualised treatment plan. For complex radiotherapy planning cases, all staff groups are required to be present for multi-disciplinary meetings.

Adequate staff numbers are essential to complete safety critical tasks in a timely manner. It is important that Medical Physics Expert support is available to support the treatment and treatment planning processes.

A safe resilient infrastructure requires all imaging and therapy equipment to function within predetermined geometric and radiation tolerances for safe radiotherapy planning and delivery. The integrity of software applications must be demonstrable and all the data transfer links robust and proven. This is ensured with programmes of planned maintenance, corrective maintenance and quality assurance.

In addition, regular up-grades to radiotherapy equipment and software are necessary. These upgrades require time to implement and ensure correct operation for a safe service.

Three models of extended clinical hours of service have been considered in the report by an IPEM Working Party, which forms part of, and should be read with, this Position Statement:

- Extended hours week day clinical service, which would enable the option of infrastructure support work, such as software upgrades, to be undertaken at the week end
- A six day clinical service, where some infrastructure support could be completed on a Sunday but for extended periods of servicing would require access on either a Saturday or Monday.
Seven day clinical working, where all infrastructure support work would be scheduled during the clinical working week.

2. Our position

IPEM believes that delivering safe, effective and timely treatment for patients is the core business of radiotherapy physics services. Extending working hours is likely to form part of the NHS’ strategy to achieve this with maximum efficiency.

IPEM aims to support these changes by providing advice to members, other physicists, engineers and technologists, and service managers, to ensure that change is achieved safely, and that quality of care is not compromised.

Extending the clinical working hours and/or increasing the activity of a centre will require an increase in physics, engineering and technologist personnel at all grades; and adequate numbers of Medical Physics Experts are important to ensure a safe radiotherapy service.

In addition to expanding the current workforce, this requires adequate commissioning of additional training places at all levels, to ensure a future supply of these specialist personnel.

3. Recommendations

The Working Party has made the following specific recommendations in its report, to assist in the development of extended hours services:

- The total time required to maintain and develop a safe and modern radiotherapy service equates to one linac year of activity in an average department. Any plan to extend the clinical hours in a radiotherapy centre needs to identify when this time will be scheduled.

- Trusts should ensure that there are sufficient trained local engineers to work with manufacturer’s engineers and provide first line support in the event of unplanned maintenance.

- Trusts should ensure that IT departments provide adequate facilities to enable manufacturers to make full use of modern IT technology during maintenance and repair.

- When modelling increased access to radiotherapy, consideration could be given to providing additional linac capacity in addition to that required for the planned clinical service. This would allow the infrastructure maintenance and service development to be completed during the working week and provide resilience in the clinical service. This may prove to be a more economically viable solution in the long term when all factors are taken into consideration.

- Any model for an extended hours clinical service should be risk-assessed locally to ensure safe delivery with no compromise to the outcome of treatment in the event of equipment failure or resolution of problems with individual treatment delivery.
Taking account of the factors discussed in the report, it is recommended that extended hours week day working or seven day working, rather than six day working, would be the preferred options.


It should be read in conjunction with this summary statement.

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This document has been prepared and published on behalf of the Institute of Physics and Engineering in Medicine (IPEM) to set out its position on this topic.

For further or updated information, please see the IPEM website at www.ipem.ac.uk.

If you have any questions about this statement, please email office@ipem.ac.uk