

Rotational Dosimetry in a Proton and Photon Therapy Centre: The UCLH Experience

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Summative Statement: This poster assesses UCLH's rotational dosimetry model for Proton and Photon therapy centre, highlighting its impact on staff satisfaction, workforce resilience, and cross-modality learning.

Background

University College London Hospitals (UCLH) is a tertiary referral centre offering advanced radiotherapy modalities, including proton beam therapy (PBT) - one of two UK national providers.

Key Services

- Truebeam, Probeam, Halcyon, Gulmay skin unit, Molecular therapy and Brachytherapy
- Specializes in 11 cancer types: such as sarcoma, head and neck, lung, paediatric, blood, brain, gynaecological, oesophageal, and teenage and young adult cancers.

Workforce & Innovation

- Hybrid work model: 3 days remote, 2 days in-office
- Team expansion funded to meet rising clinical workload
- Majority of patients are complex planning cases, requiring experienced staff

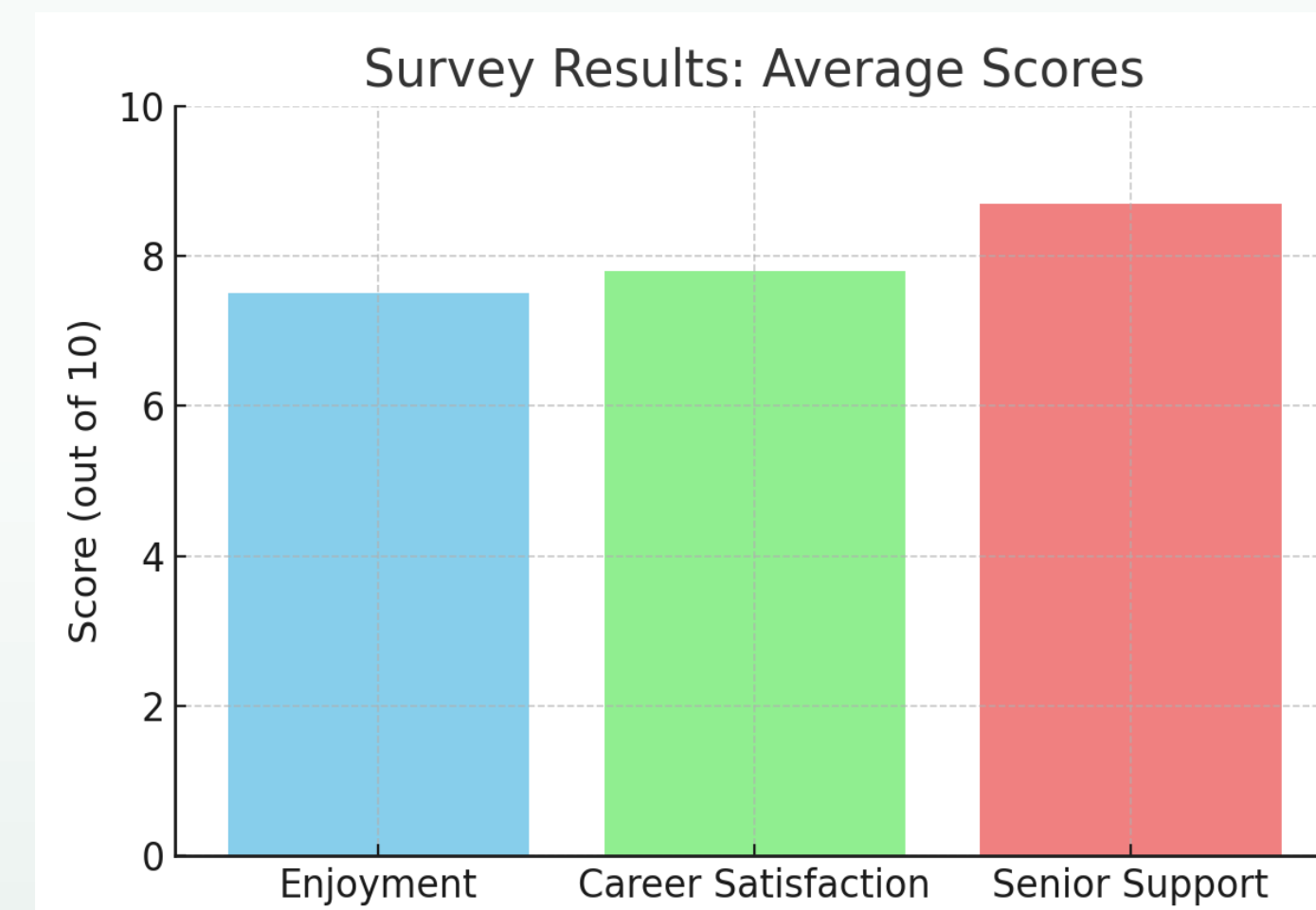
Tailored Care & Collaboration

- Customised treatment planning for: Proton International and HCA Healthcare UK patients
- Large involvement in clinical trials and cutting-edge research

Survey Results

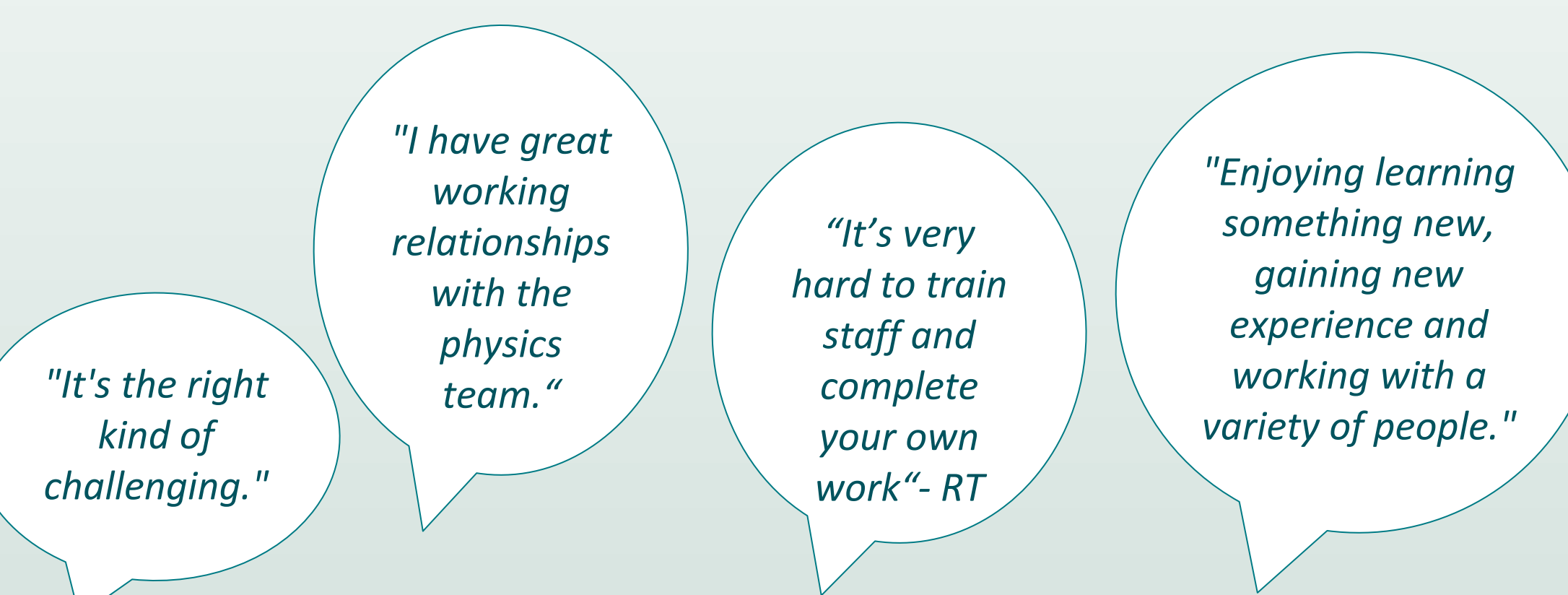
Six dosimetrists from PBT and six from RT completed the survey, which included questions about:

- Staff Enjoyment of Rotation
- Support from Seniors
- Career Satisfaction
- Role Preferences



Challenges

- Variations in workflow intensity between RT and PBT
- Competency hurdles due to high complexity workload
- Time required for refamiliarisation with work processes



Anonymised quotes from staff

Introduction

Service expansion and staffing shortages at UCLH created challenges in maintaining the rotational dosimetry model.

Resulting in a significant training burden, this led to a one-year pause in rotations.

The rotational model (below) was designed to support workforce resilience, skill development, and hybrid planning.

This was re-evaluated through a staff survey, assessing preferences for fixed versus rotational roles.

Initial Rotational Model

UK Banding	Equivalent Role	Rotational work plan	Planned frequency of Rotation
Band 8B	Senior Dosimetrist/Manager	Non-rotational leadership roles	No Rotation
Band 8A	Senior Dosimetrist	One fixed per modality, others rotate	9 Months
Band 7	Experienced Dosimetrist	Two fixed in photons, others rotate	6 Months
Band 6	Entry-Level Dosimetrist	Fully rotational	3-4 Months

Table 1. In the NHS in the UK, we are employed as a specific Band depending on our experience and responsibilities. The table elaborates on what each Band level means in more generic terms and how we set up our working pattern.

Enjoyment of Current Rotation



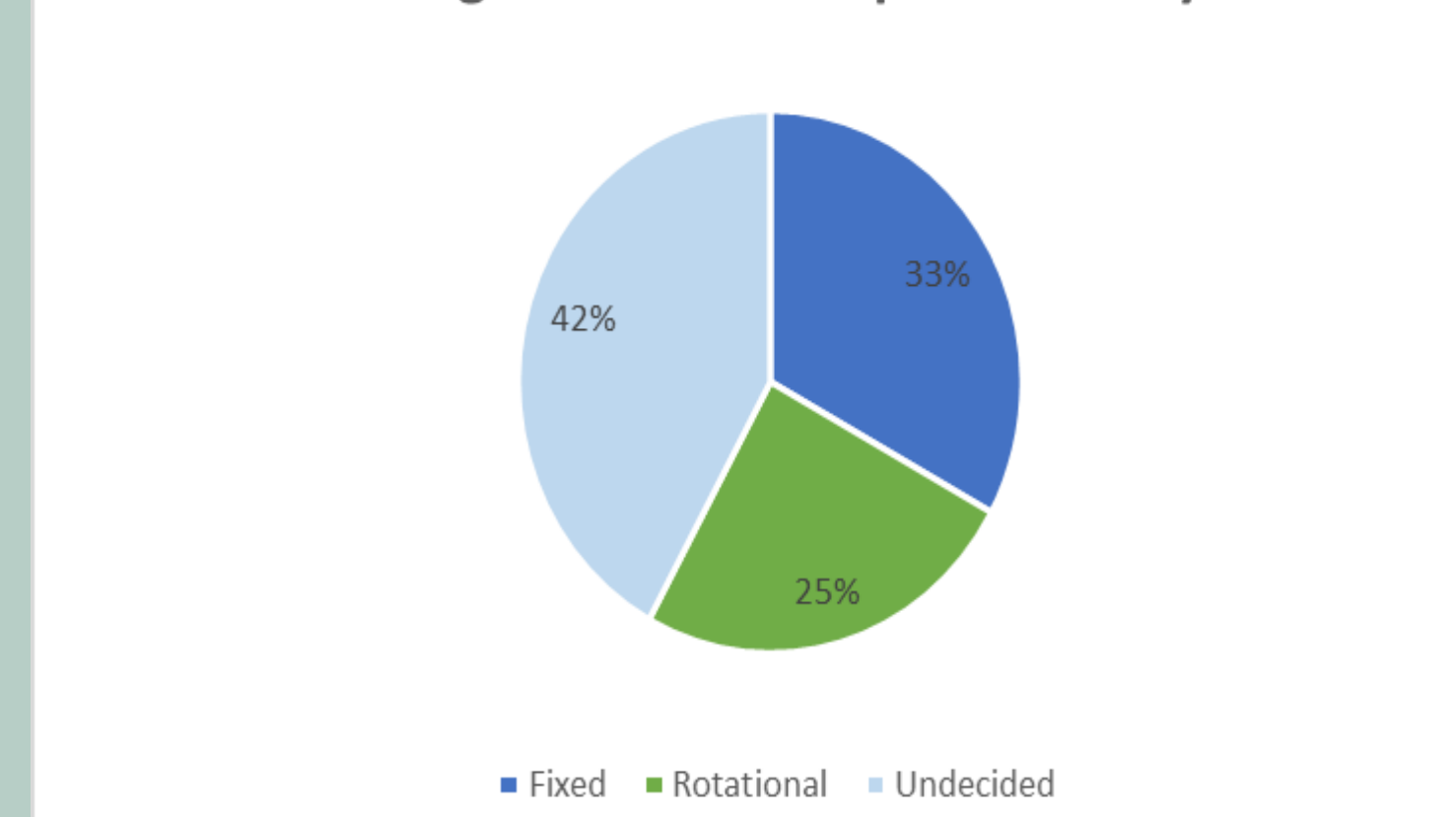
Graph 1. The survey results indicated that most dosimetrists find the rotation engaging, with an average enjoyment rating of 7.5/10. The "2" score was from the RT team. This suggests that the rotational model provides a stimulating and rewarding work environment for the staff.

Carrer Satisfaction



Graph 2. Career satisfaction averaged 7.8/10, the "2" scores were both from the RT team. Thus, indicating that the rotational model positively impacts professional growth and development. Most staff members appreciate the opportunities for learning and skill enhancement that come with rotating between different roles.

Fixing into RT or PBT permanently



Graph 3. Responses to fixing into a firm versus remaining rotational were mixed. This suggests that while some staff members value the stability of a fixed role, others appreciate the variety and learning opportunities provided by rotation.

Support by Dosimetry Seniors



Graph 4. Senior support was rated highly, with an average score of 8.7/10. This highlights the strong mentorship system in place at UCLH, where senior dosimetrists provide valuable guidance and support to their colleagues.

Enhancements Made

- **Shared Clinical Protocols**
 - Standardised workflows for cross-team collaboration
- **Competency Framework**
 - Scored proficiency tracking overseen by the Head of Planning for each body site
 - Ensures readiness for complex cases and consistent training
- **Mixed Modality Planning**
 - PBT team plans mixed modality patients (E.g. Ewing's Sarcoma patients)
 - Maintains cross-modality skills
- **Shared Workload & Contingency**
 - PBT team assist RT with previous RT importing
 - PBT team plan RT back up plans

Conclusion

UCLH's rotational dosimetry model has successfully developed a resilient workforce capable of handling complex radiotherapy cases while maintaining high staff satisfaction.

Following a one-year pause, rotations have now resumed on a staggered basis, with survey results directly informing management decisions about future workforce structure optimisation.

The program serves as an innovative approach to addressing modern radiotherapy service demands, balancing specialized proton therapy expertise with versatile photon therapy capabilities.

Insights from staff feedback will guide the evolution of rotational protocols, ensuring continued professional development while maintaining the highest standards of patient care.

References

All data reflects internal evaluations at UCLH (2023-2024).