WP3 FACT SHEET

SAFE Europe — Safe And Free Exchange of EU Radiography Professionals across Europe

Co-funded by the Erasmus+ Programme of the European Union

Ulster University (Project Coordinator) · EFRS European Federation of Radiographer Societies · L-Università ta' Malta · art · IPOPORTO · PTE Polskie Towarzystwo Elektroradiologii

## "Linear accelerator competencies developed by TR/RTTs across European educational institutions"

Management

University of Malta (MT) – *WP leader*

Associação Portuguesa dos Radioterapeutas (PT)

European Federation of Radiographer Societies (EU)

Polskie Towarzystwo Elektroradiologii (PL)

Towarzystwo Naukowe Technikow Medycznych Radioterapii (PL)

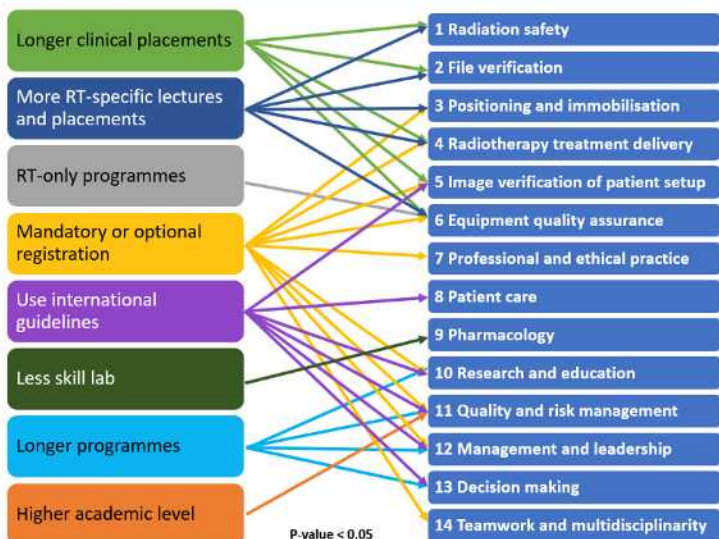Ulster University (UK) – *SAFE EUROPE coordinator*

Methodology

- Systematic search of the literature
- Thematic analysis of the literature to identify list of competencies of the TR/RTTs for tasks on the linac
- Questionnaire design
  - Part A: Course characteristics
  - Part B: Competency level of graduates
- Distributed to radiotherapy lecturers across EU
- Statistical analysis
  - Characteristics of RT education across EU
  - Most/least developed competencies
  - Relationship between course characteristics and competency level

Most/least developed competencies in EU
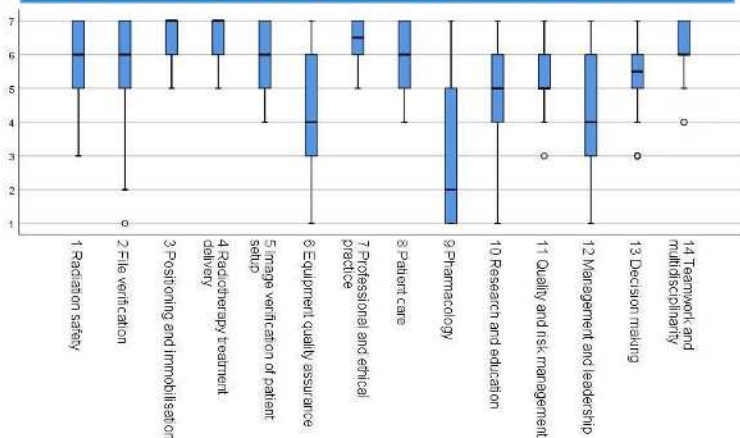
Competency score: from 1 (competency not developed) to 7 (competent)

Characteristics that improve competency

Longer clinical placements · More RT-specific lectures and placements · RT-only programmes · Mandatory or optional registration · Use international guidelines · Less skill lab · Longer programmes · Higher academic level

1 Radiation safety
2 File verification
3 Positioning and immobilisation
4 Radiotherapy treatment delivery
5 Image verification of patient setup
6 Equipment quality assurance
7 Professional and ethical practice
8 Patient care
9 Pharmacology
10 Research and education
11 Quality and risk management
12 Management and leadership
13 Decision making
14 Teamwork and multidisciplinarity

P-value < 0.05

Background

The profession and education of Therapeutic Radiographers (TR) / Radiotherapists (RTT) is regulated at the national level. Therefore, lack of European regulation leads to differences in the roles and education of TR/RTTs between member-states.

The WP3 aimed to identify which education programme characteristics influenced the competency level of graduates and which competencies are less developed across EU. The roles of the TR/RTT are broad, however, this WP focused solely on competencies related to the linear accelerator (linac).

This WP feeds this information to WP10, where webinars on the least developed competencies will be made available to the public.

Results

Thematic analysis of the literature

- 170 competencies were identified as being the responsibility of TR/RTTs working in the linear accelerator
- Evidence of a complex body of knowledge/skills developed by TR/RTTs
- List of competencies used in the design of the survey

Survey

- 50 respondents from 19 countries
- 5 countries identified multiple pathways to become a TR/RTT

Lack of harmonisation of education of radiotherapy across Europe

- Most common programme characteristics identified by respondents:
  - Dual-qualification programmes in RT and Medical Imaging (MI)
  - EQF6 level
  - 3 to 4 years long
  - Learning outcomes defined by national law/regulation
  - Registration mandatory to practise
- Other programme characteristics found across EU:
  - RT-only programmes
  - Programmes which include RT, MI and electrophysiology (e.g. ECG);
  - Programme academic level vary between EQF4 and EQF7
  - Programme duration varies between 1 semester and 5 years
  - Optional registration or registration not available in some countries
- Average of 31% of the curricula is dedicated to RT
  - 88% if programme is RT-only
  - 24% if programme has other specialisms (p = 0.005)
- Average of 459h of clinical placement dedicated to RT
  - 94% of placement hours dedicated to RT if programme is RT-only
  - 27% if programme has other specialisms (p = 0.005)
- Average of 233h (18% of total placement) is delivered in skill labs

Detailed results and more information

Couto JG., McFadden S., McClure P., Bezzina P., Hughes C. *Competencies of therapeutic radiographers working in the linear accelerator across Europe: A systematic search of the literature and thematic analysis*. Radiography 2019. https://doi.org/10.1016/j.radi.2019.06.004

List of competencies of the TR/RTT working on the linac: www.safeeurope.eu

Couto JG., McFadden S., McClure P., Bezzina P., Camilleri L., Hughes C. *Evaluation of radiotherapy education across the EU and the impact on graduates' competencies working on the linear accelerator*. Radiography 2020. https://doi.org/10.1016/j.radi.2020.08.010

EFRS. *Radiographers in Radiotherapy: Practice across the Radiotherapy Pathway*. 2019. https://api.efrs.eu/api/assets/posts/91