Advanced practice roles amongst Therapeutic Radiographers/Radiation Therapists (TR/RTTs): European snapshot

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Outline

- Background & Rationale
- Aim & Objectives
- Methods
- Results & Key Findings
- Conclusion & Recommendations
Background

What are Advanced Practice (AP) roles?

- Practitioners with several years of experience and additional qualification
- Level of practice: high degree of **autonomy** and complex decision making.
- **Core capabilities** and area specific **clinical competence** to practice across 4 pillars
- Not performed at graduation time! (entry-level)
Background

Why AP roles are important in Radiotherapy (RT)?

- Ageing population & cancer incidence/prevalence
- Cancer survivorship & public expectations
- RT workforce demands & challenges in staff recruitment/retention
- RT advances in technologies/modalities/techniques & Artificial Intelligence
- Impact on clinical, organizational and professional outcomes
Systematic Literature Review - SLR findings

Roles
- Clinical areas
- Site-specific
- Role dependent

Scope of practice
- 7 Dimensions
- 27 Subdimensions
Systematic Review

Advanced practice roles of therapeutic radiographers/radiation therapists: A systematic literature review

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ABSTRACT

Introduction: Advances in Radiotherapy (RT) technology and increase of complexity in cancer care have enabled the implementation of new treatment techniques. Subsequently, a greater level of autonomy, responsibility, and accountability in the practice of Therapeutic Radiographers/Radiation Therapists (TR/RTTs) has led to Advanced Practice (AP) roles. The published evidence of this role is scattered with confusing terminology and divergence regarding the perception of whether a specific role represents AP internationally. This study aims to establish an international baseline of evidence on AP roles in RT to identify roles and activities performed by TR/RTTs at advanced level practice and to summarise the impact.

Methods: A systematic PRISMA review of the literature was undertaken. Thematic analysis was used to synthesise the roles and associated activities. Six RT external experts validated the list. The impact was scrutinised in terms of clinical, organisational, and professional outcomes.

Results: Studies (n = 87) were included and categorised into four groups. AP roles were listed by clinical area, site-specific, and scope of practice, and advanced activities were organised into seven dimensions and 27 sub-dimensions. Three most-reported outcomes were: enhanced service capacity, higher patient satisfaction, and safety maintenance.

Conclusion: Evidence-based AP amongst TR/RTTs show how AP roles were conceptualised, implemented, and evaluated. Congruence studies have shown that TR/RTTs are at par with the gold-standard across the various AP roles.

Implications for practice: This is the first systematic literature review synthesising AP roles and activities of TR/RTTs. This study also identified the main areas of AP that can be used to develop professional frameworks and education guiding policy by professional bodies, educators and other stakeholders.

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Rationale

AP roles nature and evolution in RT
- Great variability & lack of standardization
- Local development to supply demands
- *Ad-hoc* implementation & development

Conceptual and practical gaps at national & European level
- Education & training
Aim & Objectives

- To assess current AP roles amongst TR/RTTs.

- To identify the educational gaps for this advanced level practice across Europe.
Methods

Study design
• Cross-sectional

Survey
• Mix-method questionnaire distributed via SAFE EUROPE partners (online)

Self-administered questionnaire
1. Advanced practitioners TR/RTTS
2. TR/RTTs working in AP roles/tasks
3. Not sure/ Other/ None of the above
Methods

Self-design questionnaire:
- Face & content validity
- Test-retest reliability
- Ethics approval

I- Sociodemographics

II- Professional profile
- IIA- Advanced practitioner
- IIB- TR\RTT working in AP role/tasks

III- Education & training needs
Methods

Data collection

• Dec 2021 – March 2022

Data analysis

• Quantitative data
• Qualitative data
• Triangulation
Results & Key Findings

SLR

Survey
Online survey engagement

272 participations

- 36 not working in RT practice
- 11 working in non-European countries

- 36 not working in AP role/tasks

189 eligible participations
Which definitions best apply to your practice?

9% TR/RTTs undecided of current level of working practice
Results

Working countries

21
n participants
1 41

41
34
23
19
11
11
Results

Respondents’ characteristics

- 72% Female
- 16% Migrant TR/RTTs
- 94% Worked as TR/RTT in treatment
- 48% RT-only programme
- 29% RT, Medical Imaging, Nuclear Medicine

13 years
- Professional experience as TR/RTT (1-37)

EQF6
- Education academic level (EQF4 - EQF8)

6 years
- AP experience (0-30)
Areas of clinical practice as TR/RTT

![Bar chart showing participants (n) for different domains: Treatment (180), Planning (100), Education & Training (80), Patient Information (60), Quality Assurance (40).]
Site-specific roles in AP level

Participants (n)

- Prostate
- Breast
- Head and neck
- Lung
- Gynaecology
- Colorectal
- Gastrointestinal
- Neuro-oncology
- Skin
Clinical areas of AP

Participants (n)

- Palliative care
- Practice development
- Brachytherapy
- Paediatric care
- Other

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Scope of AP by activities

Participants (n)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Participants (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced IGRT/ART</td>
<td>140</td>
</tr>
<tr>
<td>Patient information</td>
<td>120</td>
</tr>
<tr>
<td>Patient assessment/management</td>
<td>100</td>
</tr>
<tr>
<td>Evidence-based practice advancement</td>
<td>80</td>
</tr>
<tr>
<td>Quality assurance/quality control</td>
<td>60</td>
</tr>
</tbody>
</table>
Scope of AP by activities

Participants (n)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Participants (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National guidance</td>
<td>15</td>
</tr>
<tr>
<td>CPD development</td>
<td>20</td>
</tr>
<tr>
<td>Advanced research/CT coordination</td>
<td>25</td>
</tr>
<tr>
<td>Treatment prescription</td>
<td>30</td>
</tr>
<tr>
<td>Pharmacological intervention</td>
<td>30</td>
</tr>
</tbody>
</table>
Scope of AP by dimensions

Participants (n)

- Patient care
- Research & innovation
- Treatment planning
- Education & training
- Management & consultancy
- Treatment imaging & delivery
- Quality & risk management
- Other

- Project management
- Clinical governance/business case
- National guidance
Job Titles…
Job Titles
- Advanced Practitioners group

(Senior) TR/RTT

(Senior) dosimetrist

Head/chief TR/RTTs
- Brachytherapy or site-specific

Advanced practitioner

(Clinical) specialist TR/RTT
- Treatment planning/ IGRT & ART
Key Findings

- Variability & inconsistency
- Multiple role titles

- 75% participants

- 32% working time by AP pillars
Working time by AP pillar

- Clinical Practice
- Leadership & management
- Education
- Research

Clear focus on Clinical Practice pillar
Research pillar neglected
AP requirements

Minimum working years to perform AP roles/tasks
- 5 years

Minimum postgraduate education to undertake AP roles/tasks
- Master’s degree or specific modules
AP governance

1/2 National RT-specific framework for AP or departmental protocols for AP role/tasks performance

66% National multi-professional AP framework for healthcare. (Advanced Practitioners)

32% AP regulation/ practice agreement
- Professional body
- Department
AP support & implementation

12% in AP post with temporary funding:
- Employer/ government
10% do not know AP post funding type

Only 19% of TR/RTTs has financial compensation for this extra responsibility in their remuneration

Involvement in AP role/tasks development:
• New technologies/techniques implementation
• Emerging role/task
• Service/care pathway redesign
• Quality improvement programme
AP assessment

Only 1 in 4 advanced posts/roles/tasks are evaluated

- Process evaluation, competency/capability assessment, annual report, audit, and peer review...

62% in AP roles/tasks with impact assessment:

- Quality initiatives, patient and professional satisfaction, innovation, and time savings...

Professional & organizational factors:
- Limited staff resources
- Lack of dedicated time
- Departmental culture...
AP education

Additional academic degree/ training qualification:
- “RT and Oncology”/ “Advanced Practice” degree
- Specific master’s modules

Clinical supervision/ peer support

Training courses (universities)

67% with funding for education and/or training (employer)

Factors:
Cost of existing courses, the role/task did not require it, lack of funding
CPD activities

Participants (n)

- Conferences
- Professional meetings/academic rounds
- Internal courses
- External courses
- In-house training
- Training packages
- Hands-on practical sessions
- Mentoring
- Study days
- Professional networks
- Audit participations
- Self-directed learning (portfolio)
- Vendor training
- Journal clubs
- Supervised practice
- Observation (workbook)
- Case-based sessions
- Tutorials
- On shadowing activities
- Interdisciplinary "boot-camp"

Mandatory for advanced level practice (60%)
Regular access in workplace (51%)
Do not engage in CPD! (5%)
Education & training needs

Knowledge

- IGRT/ART
- Multimodal imaging & technologies
- Advanced treatment planning

Capabilities & advanced skills

- Leadership skills
- Management skills
- Clinical-site/specialty expertise
Emerging AP roles

New AP roles will emerge to meet future service needs

Eg: brachytherapy activities, RT data management (AI), psychology interventions...

Practice development

Lung cancer
Breast cancer
AP education & training gaps

52% consider that there are gaps in education & training for AP roles in RT

- Limited access of existing courses (cost, language barrier)
- Work based learning with low support from universities
- Lack of protected time

32% do not know if gaps exist in their countries

- Direct
  - No formal training
  - Lack of regulation & guidance

- Indirect
  - Dual qualification for TR/RTTs
  - Lack of professional recognition & career development

- Lack of team support
- Low management support

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Participant findings by country

- 95% of participants stated that CPD is mandatory for AP

- All participants that self-reported as Advanced Practitioners stated that do not have job plan.

- All TR/RTTs with clear knowledge about their level of practice
Conclusion & Recommendations

“Mixed-bag” of AP roles & job titles at national and European levels.

- Standardize job tiles & descriptions to ensure role recognition & support.

Inconsistency in AP both at national and European level

- European framework based on AP roles in RT & requirements.
Conclusion & Recommendations

Disproportion between the 4 AP pillars neglecting the research pillar

- Highlight the value of each AP pillar to all stakeholders and the importance of the job plan.

Variability in AP evaluation and impact assessment.

- Employers should evaluate their AP posts and assess the impact for AP sustainability.
Conclusion & Recommendations

Considerable variability in support & supervision for education & training.

- Creation of accredited Master’s programmes specific for RT AP/
- Clear pathways of education & training for role development of TR/RTTs with more support from the universities.
- Update curricula with new emerging AP roles of AP programmes.
- CPD activities should be offer at workplace with manager support.
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Survey validation

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Statistical analysis: Jéssica Rodrigues (PT)

Survey dissemination & support
Next study…

Please volunteer for the online interview

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