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

CNart 2019

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Ulster University (Project coordinator)

EFRS EUROPEAN FEDERATION OF RADIOGRAPHER SOCIETIES

L-Università ta' Malta

IPOPORTO

art Associação Portuguesa de Radioterapeutas

SOCJETÀ TAR-RADJOGRAFI MEDIĊI

Competencies of radiotherapy professionals working on the Linac across the EU

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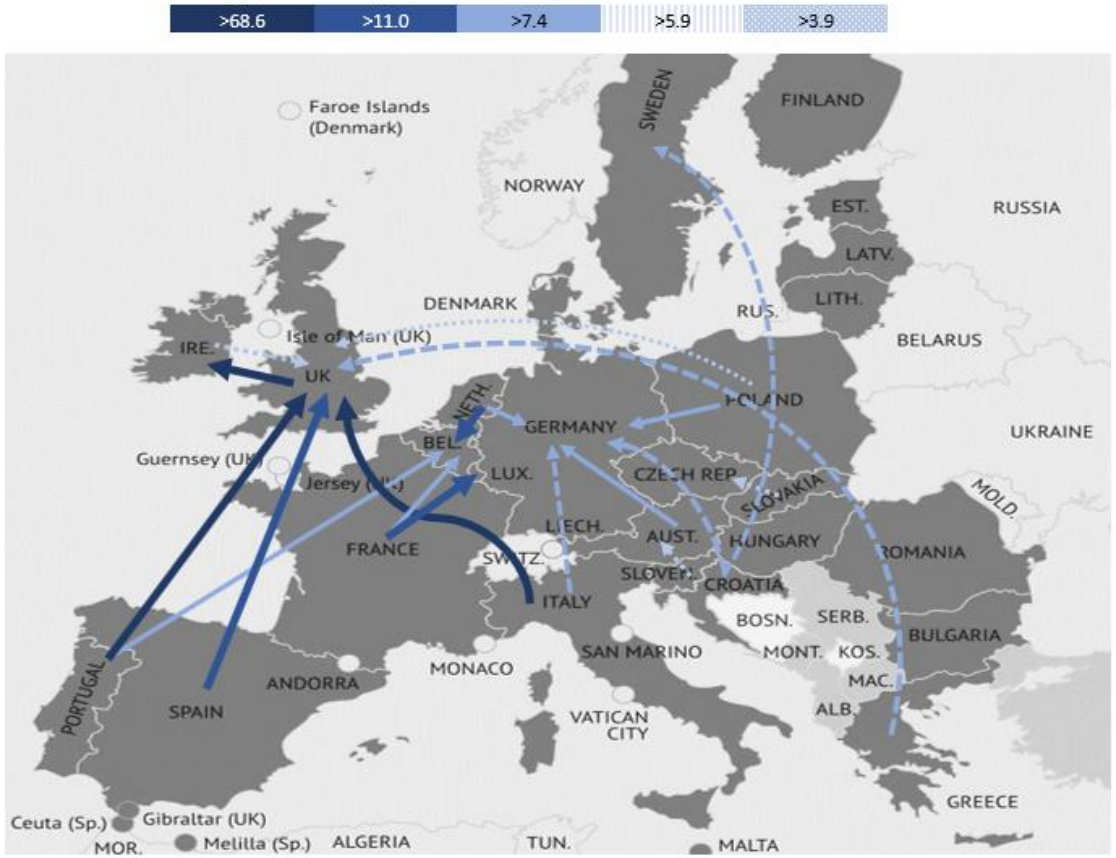
Background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POLAND
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Guernsey (UK)
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CZECH REP.
SLOVAKIA
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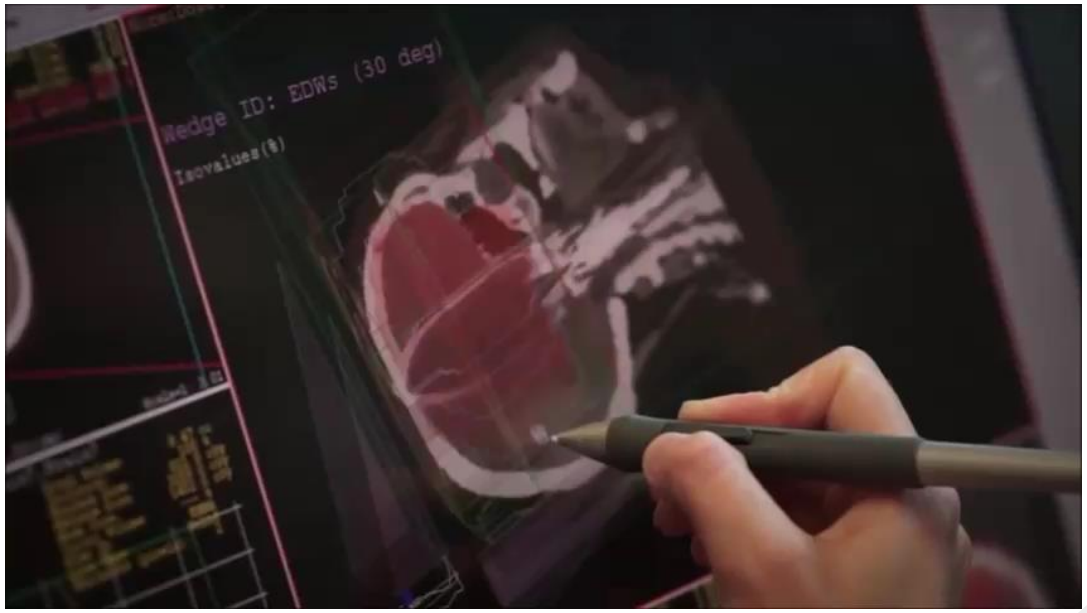
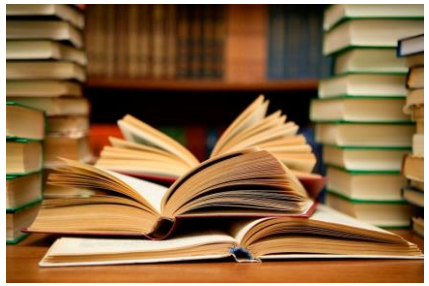
Research Questions / Scope

Which competencies are most/least developed across the EU?

Which course characteristics influence the competency level?



Methodology



Literature analysed:

- Systematic search
  Competencies + RP + linac
- Snowballing
- Benchmarking documents

363 competencies
mentioned in the literature

16 themes
identified through thematic analysis

Couto, J.G., McFadden, S., McClure, P., Bezzina, P., Hughes, C., 2019. Competencies of therapeutic radiographers working in the linear accelerator across Europe: A systematic search of the literature and thematic analysis. Radiography Journal.

Methodology

Part A: Educational programme characteristics

Part B: 63 competencies on the linac

- 14 sections
- Between 1 (not developed) and 7 (competent).

Distributed by SAFE Europe – Safe And Free Exchange of EU Radiography Professionals across Europe

To education institutions

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

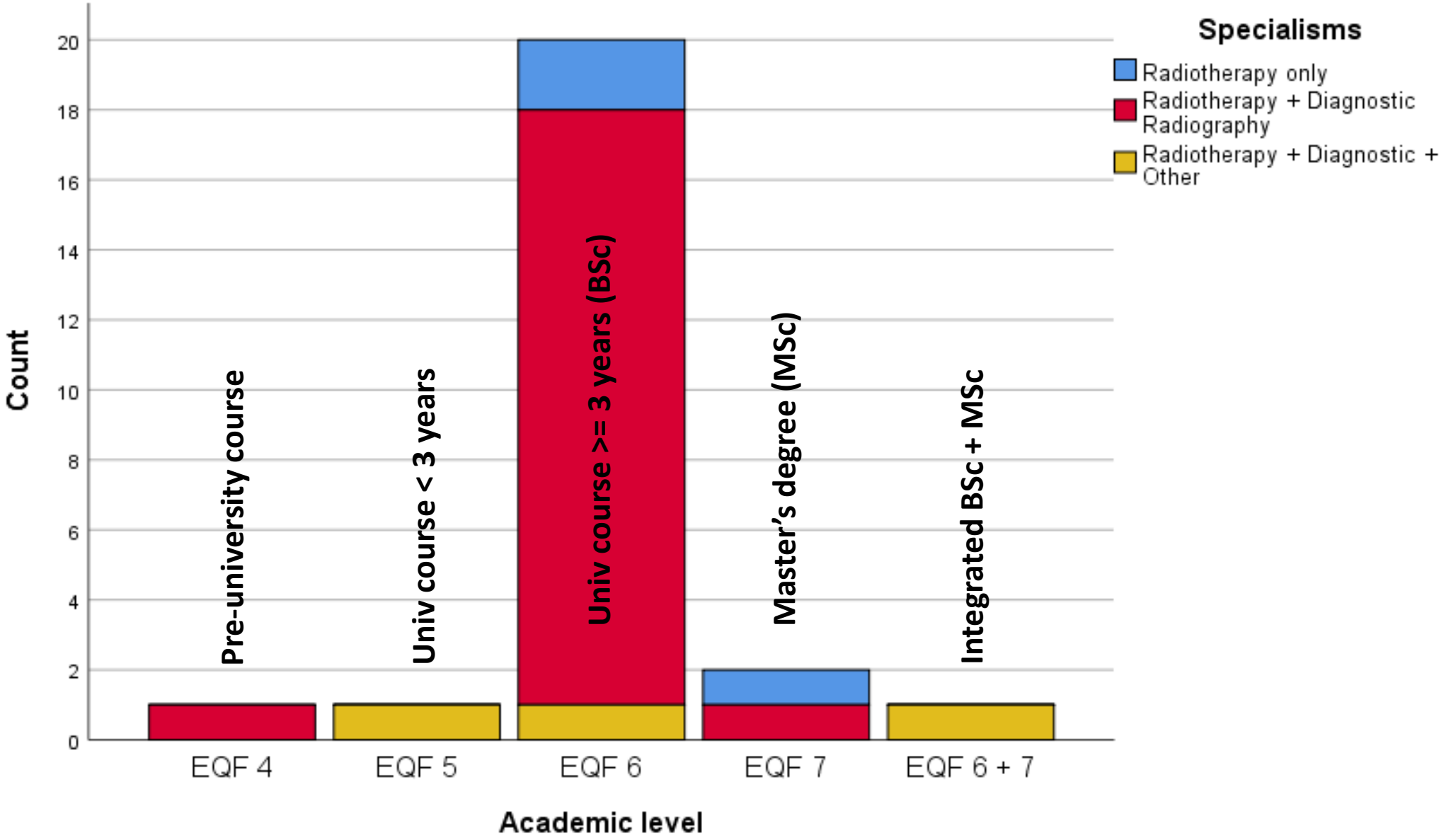
14 Teamwork and multidisciplinarity

Results

89 respondents

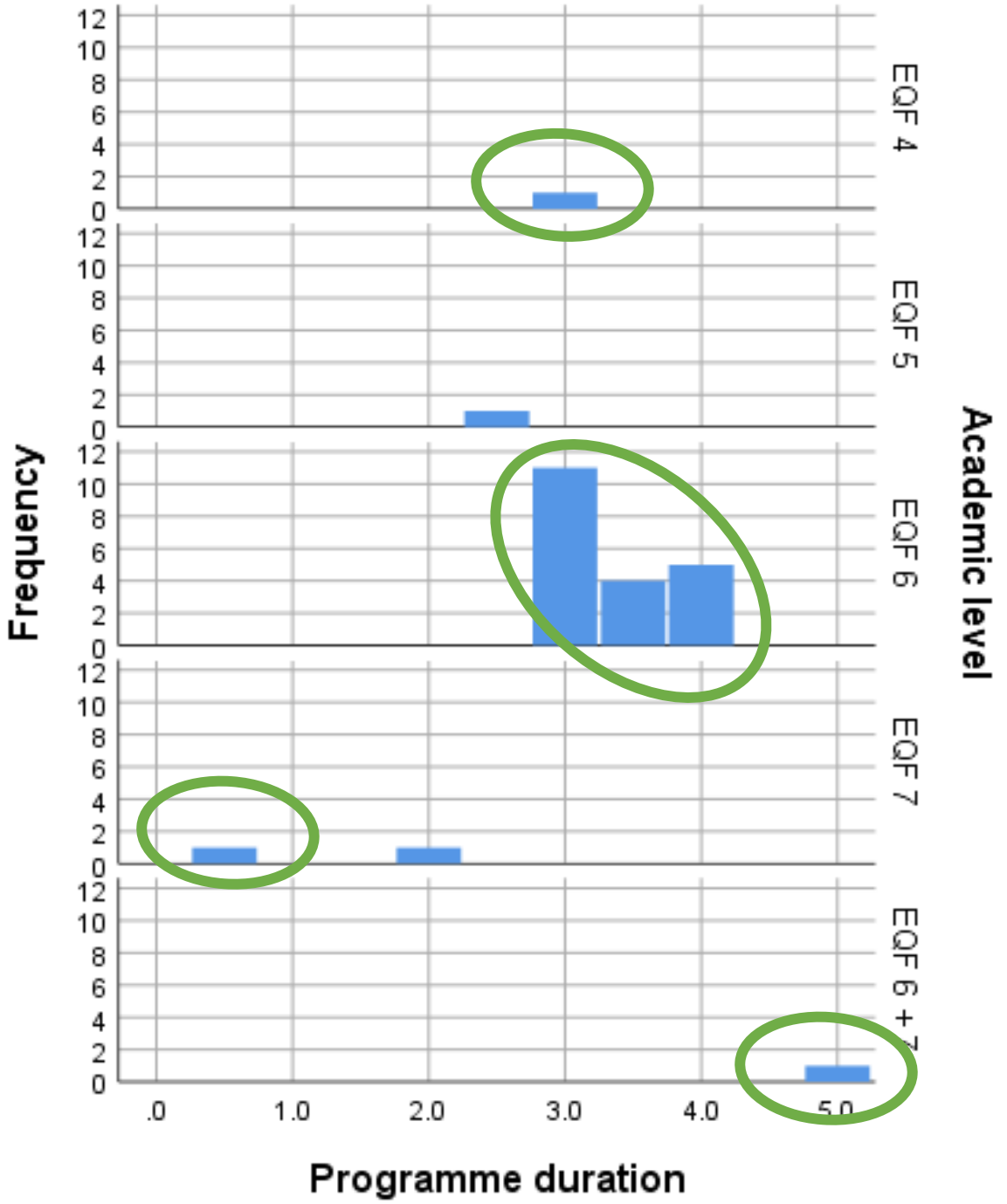
Total of 25 national-programmes
(19 EU countries)

Results – **Academic level** & **Specialisms**

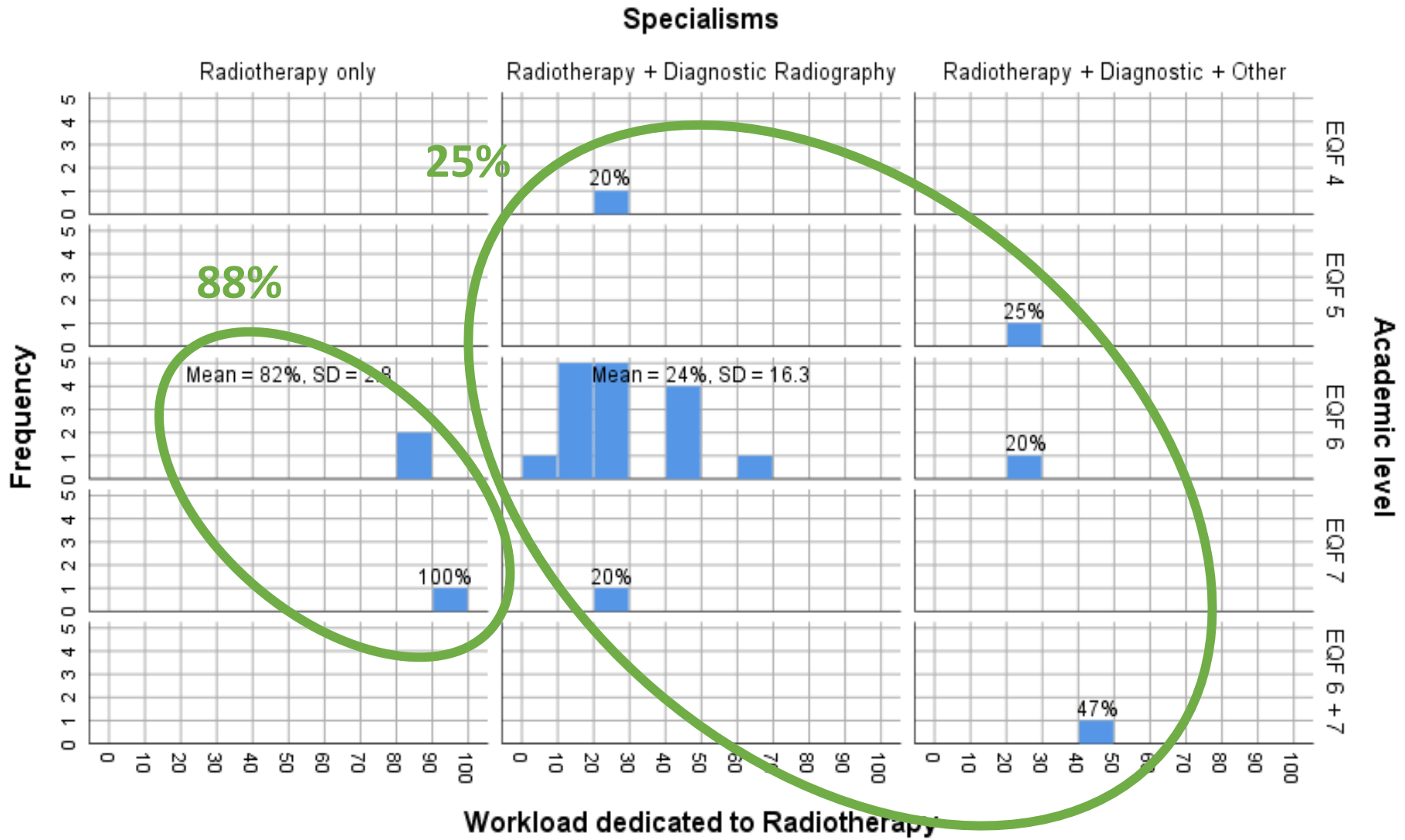


Results –

Course duration

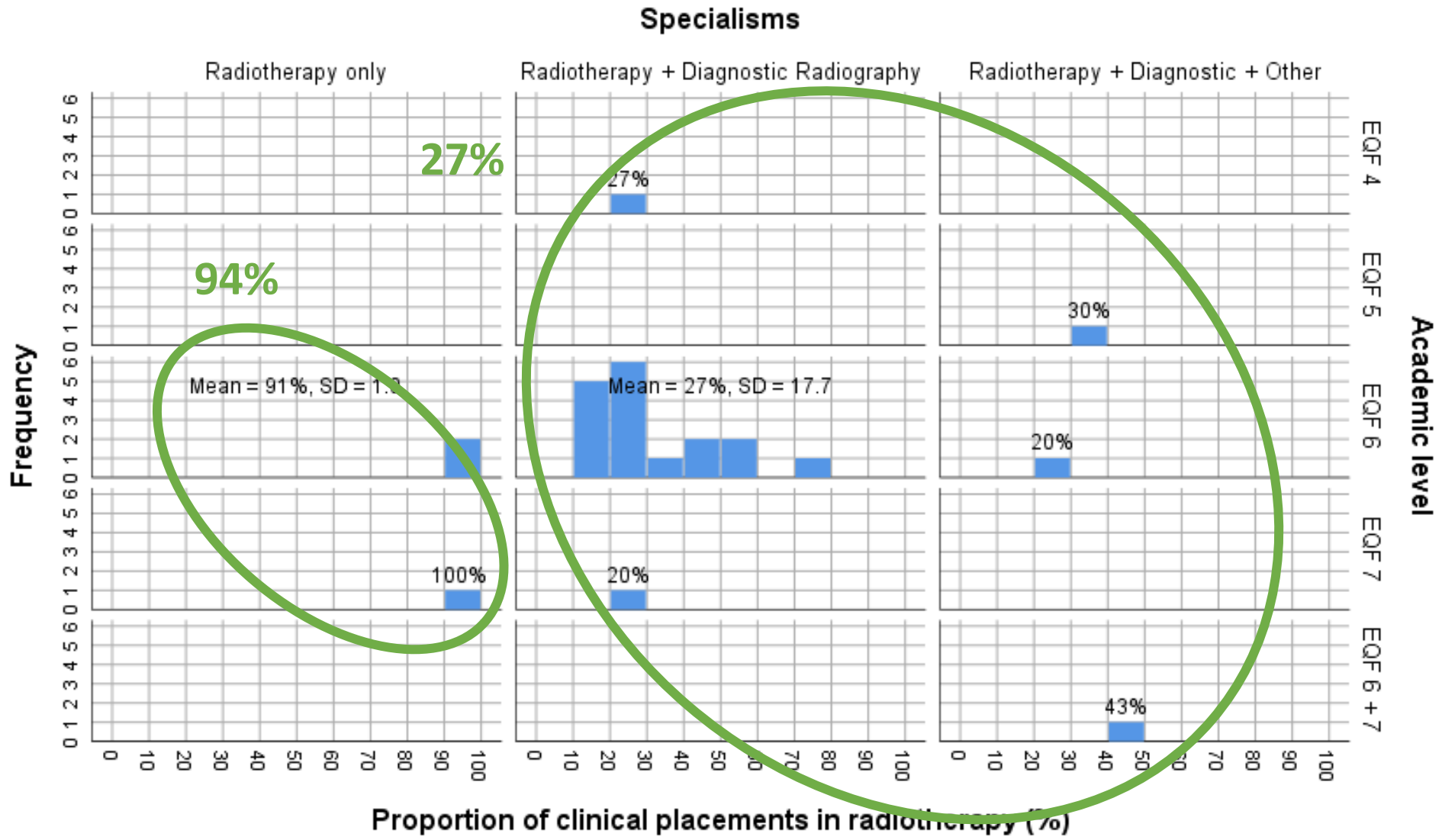


Results – **% of course** dedicated to **Radiotherapy**



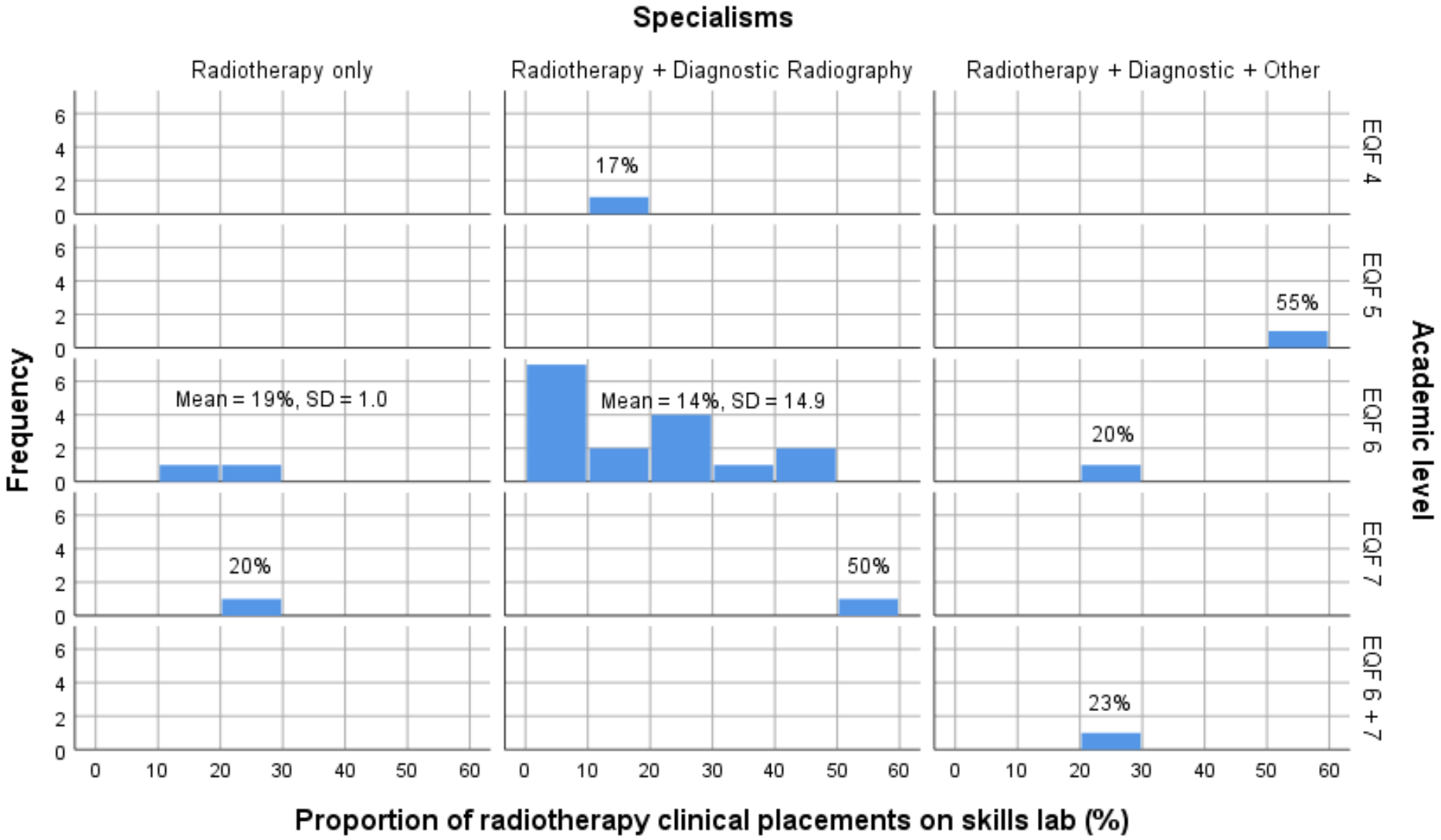
Kruskal-Wallis test: RT only vs. RT + others (p = 0.005)

Results – **% Clinical placements** dedicated to Radiotherapy



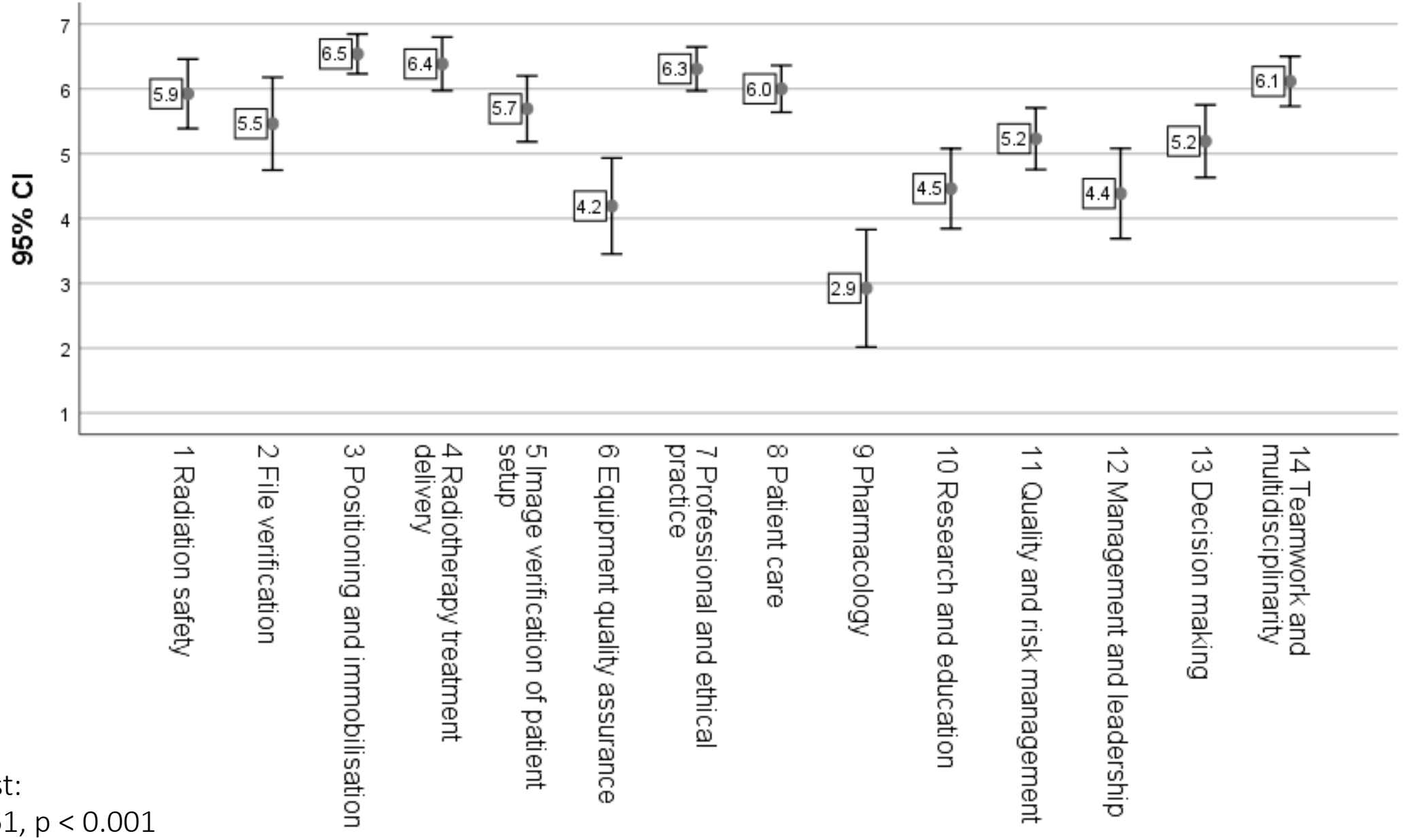
Kruskal-Wallis test: RT only vs. RT + others (p = 0.005)

Results – % of clinical placements **in skills labs**



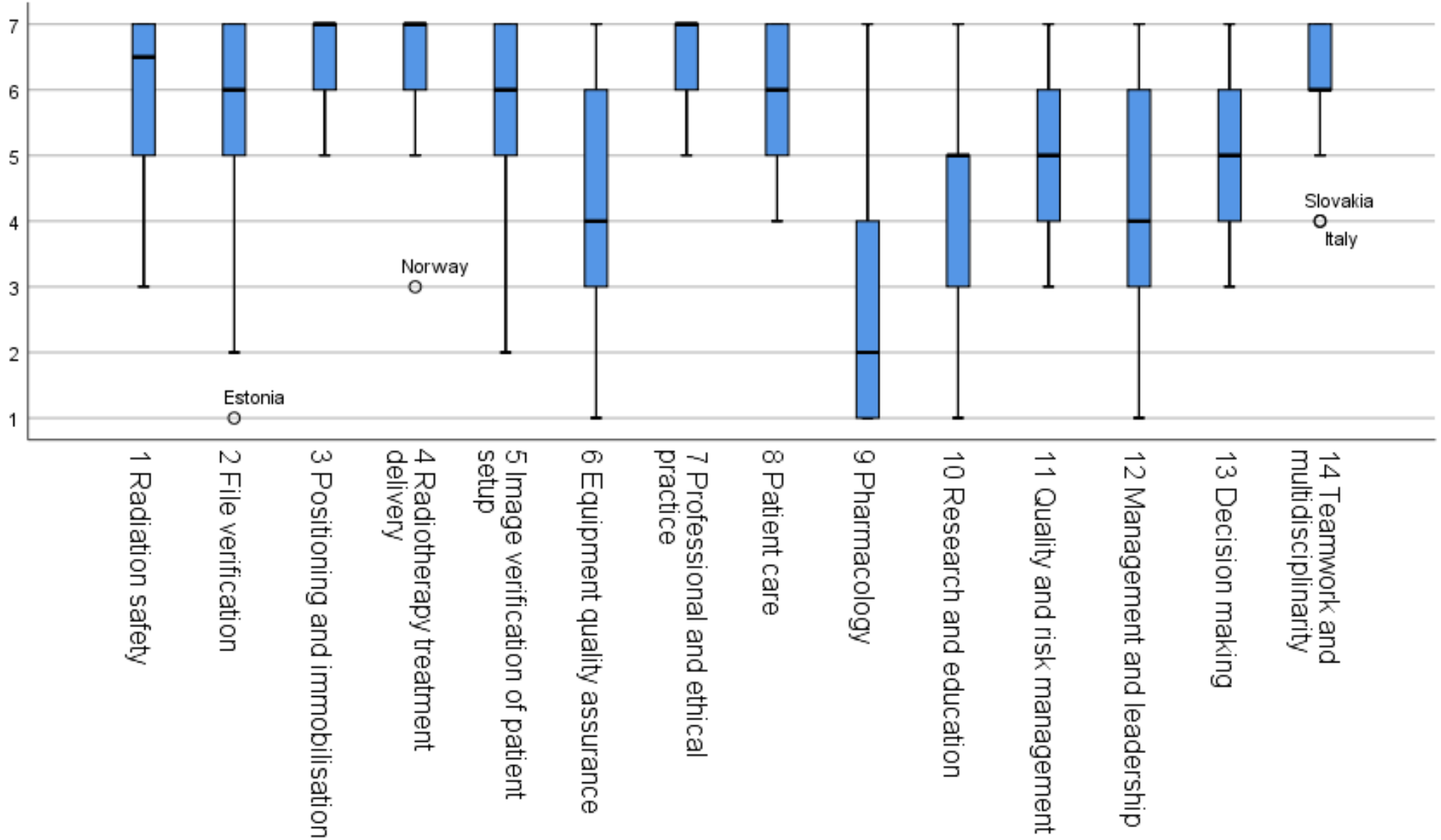
Kruskal-Wallis test: RT only vs. RT + others (p = 0.691)

Most/Least Developed Competency groups

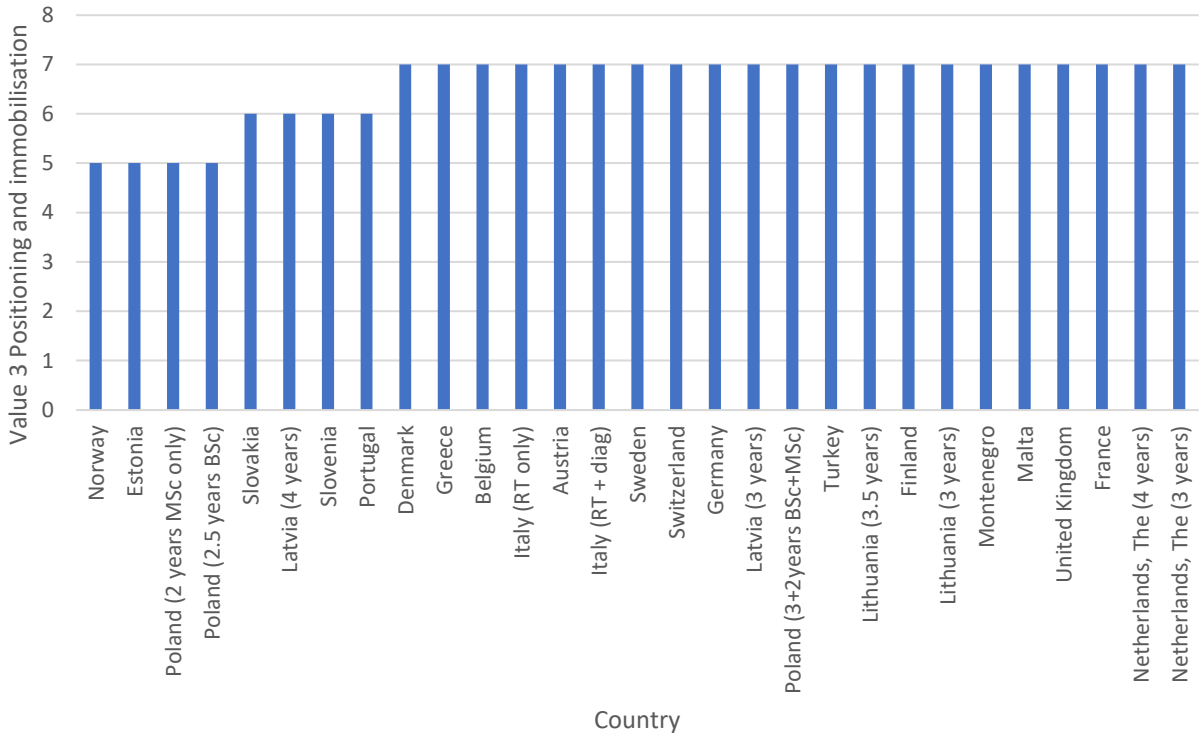


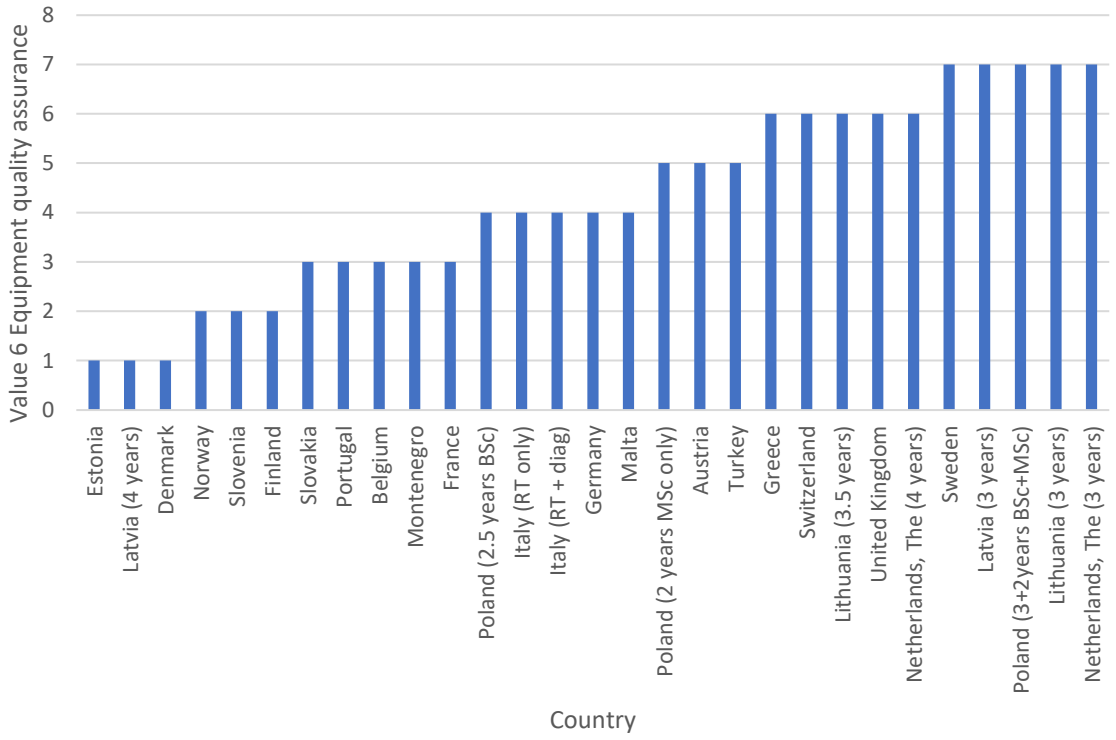
Friedman test:
$X^2(13)=145.61$, $p < 0.001$

Distribution of the competency scores across the EU



Competency scores of individual countries





Which factors influence the competency level?

- **Academic level**
- **Specialisms**

P > 0.05

- **Course duration**
- **Proportion of course dedicated to RT**
- **Proportion of clinical placements dedicated to RT**
- **Proportion of RT placements in labs**
- **Total hours of clinical placement**

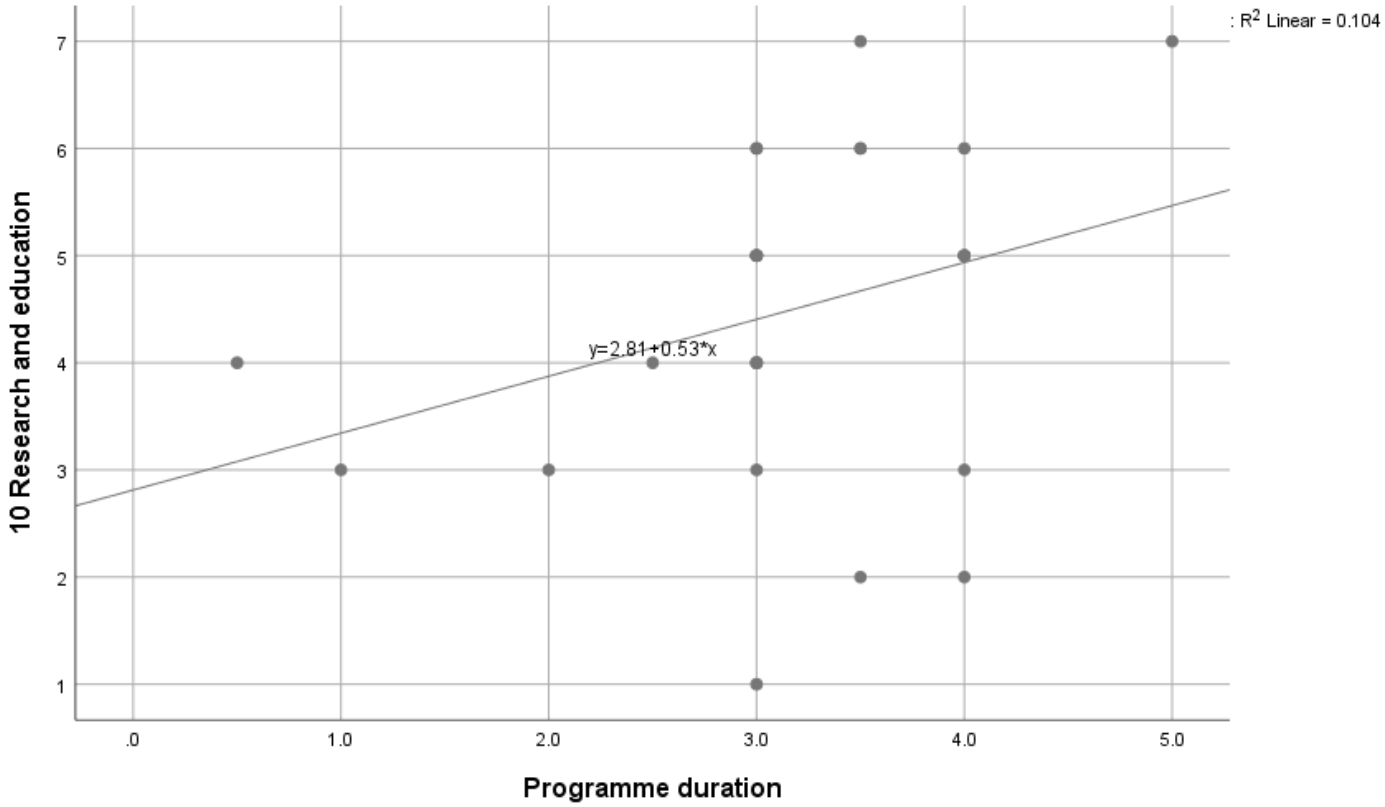
P < 0.05

P > 0.05	EQF 4 or 5 (n=2) Mean	EQF 6 (n=20) Mean
1 Radiation safety	**6.00**	5.72
2 File verification	5.00	**5.58**
3 Positioning and immobilisation	6.00	**6.65**
4 Radiotherapy treatment delivery	5.40	**6.51**
5 Image verification of patient setup	5.42	**5.89**
6 Equipment quality assurance	3.88	**3.96**
7 Professional and ethical practice	6.00	**6.35**
8 Patient care	5.29	**5.97**
9 Pharmacology	1.33	**3.62**
10 Research and education	3.38	**4.71**
11 Quality and risk management	4.17	**5.45**
12 Management and leadership	**4.50**	4.11
13 Decision making	3.50	**5.20**
14 Teamwork and multidisciplinarity	5.75	**5.91**

P > 0.05	Radiotherapy only (n=3) Mean	RT + diagnostic (n=19) Mean
1 Radiation safety	**6.44**	5.61
2 File verification	**6.33**	5.28
3 Positioning and immobilisation	**7.00**	6.53
4 Radiotherapy treatment delivery	**7.00**	6.39
5 Image verification of patient setup	5.61	**5.85**
6 Equipment quality assurance	**5.50**	3.93
7 Professional and ethical practice	6.20	**6.28**
8 Patient care	**6.08**	5.90
9 Pharmacology	**3.67**	3.37
10 Research and education	3.33	**4.76**
11 Quality and risk management	4.83	**5.32**
12 Management and leadership	3.75	**4.32**
13 Decision making	4.33	**5.29**
14 Teamwork and multidisciplinarity	5.00	**5.87**

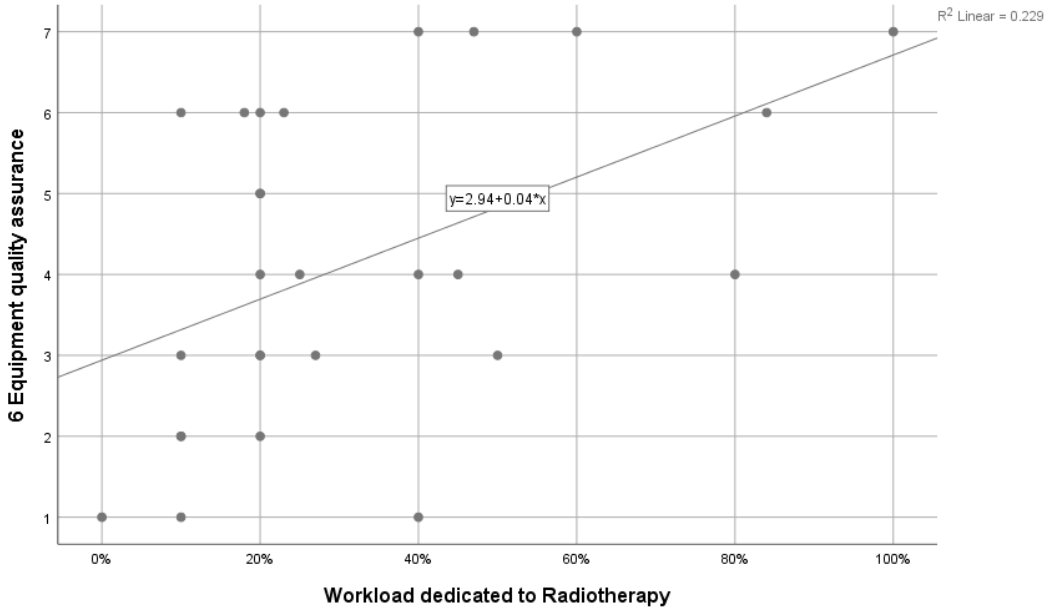
Programme duration

	Programme duration	
	Rs	P-value
7 Professional and ethical practice	.402	.026
10 Research and education	.517	.005
11 Quality and risk management	.494	.007
13 Decision making	.486	.008



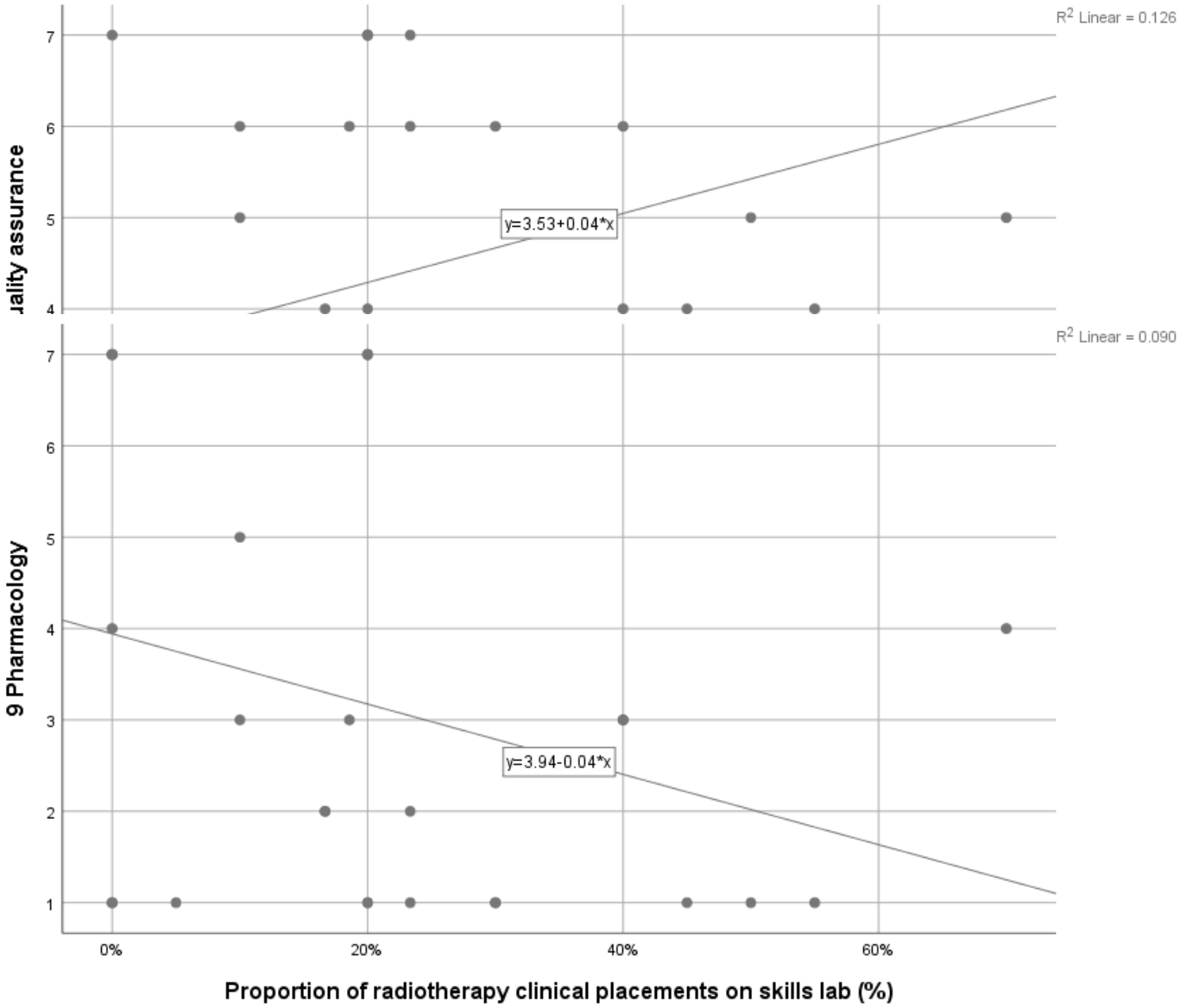
	Workload in RT		Proportion of placements in RT		Hours of clinical placements in RT	
	Rs	P	Rs	P	Rs	P
2 File verification	.500	.006	.438	.014	.590	.004
3 Positioning and immobilis.	.327	.060	.358	.040		
6 Equipment QA	.508	.006	.436	.015	.522	.011

Proportion of course dedicate to RT



Proportion of rt clinical placements on skills labs

	Proportion of RT placements on skills labs	
	Rs	P-value
6 Equipment quality assurance	.446	.014
9 Pharmacology	-.475	.011



Conclusions

Programmes that have multiple specialisms

P<0.05

↓ proportion of:

course in RT

placements in RT

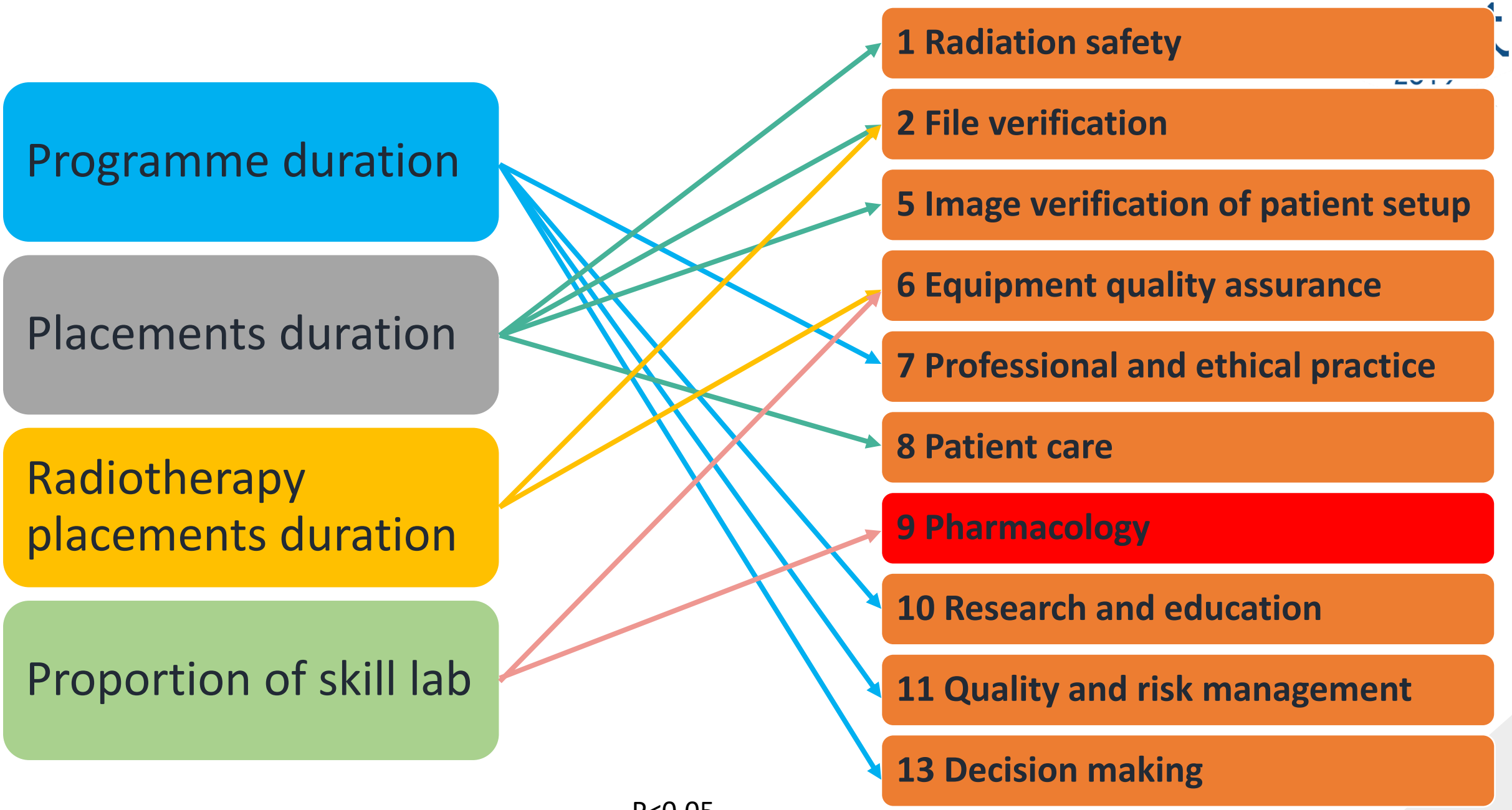
P<0.05

↓ competencies in:

File verification

Positioning & immobil.

Equipment QA


Programme duration
Placements duration
Radiotherapy placements duration
Proportion of skill lab
1 Radiation safety
2 File verification
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
13 Decision making

P<0.05

There are competencies that must be further developed

Pharmacology

Equipment quality assurance

Management and leadership

Research and education

Less developed

(score < 5)

Education programmes should have adequate:

- Programme and placement durations
- Proportion of RT workload and placements
- Proportion of skills lab placements

…TO ACHIEVE HIGHER LEVELS OF COMPETENCY IN RT

Next steps

Interviews of stakeholders regarding these differences

Webinars

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Questions ☺ ?

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