



ESTONIAN QUALITY AGENCY FOR
HIGHER AND VOCATIONAL EDUCATION

Report on the
re-assessment:
Master's programme in
Radiography (Radiotherapy)
Tartu Health Care College

2022

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1. Introduction

Re-assessment of study programme group

In the case the right to provide instruction has been granted for a specified term, EKKA shall, within a specified period, conduct a re-assessment of the study programme group and cycle of higher education.

When an institution applies for the right to provide instruction, it is ascertained whether the quality of instruction meets the requirements laid down for the relevant cycle of higher education; and whether resources and sustainability are adequate for the provision of instruction.

EKKA conducts initial assessment and re-assessment using three assessment areas: 1) Quality of instruction, 2) Resources, and 3) Sustainability. The Quality of instruction is divided into three sub-areas: Study programme, Learning and teaching, and Organisation of studies. The area of Resources has also three sub-areas: Academic staff, Learning and teaching environment, and Financial resources. When assessing sustainability, assessments for quality of instruction and resources are taken into account in addition to further sustainability criteria.

In the assessment report, the committee shall determine for each assessment area, whether the quality of instruction:

- 1) Conforms to the required standard;
- 2) Partially conforms to the required standard;
- 3) Does not conform to the required standard.

As a result of the re-assessment, EKKA Quality Assessment Council for Higher Education makes a proposal to the Minister of Education and Research, whether to grant the higher education institution the right to provide instruction in the relevant study programme group and cycle of higher education; to grant the higher education institution the right to provide instruction in the relevant study programme group and cycle of higher education for one to three years; or not to grant the higher education institution the right to provide instruction in the relevant study programme group and cycle of higher education.

The re-assessment is carried out in accordance with the document “Guidelines for the initial assessment and re-assessment of study programme groups” approved by EKKA Quality Assessment Council for Higher Education on 19.05.2020.

The re-assessment of the study programme in Radiography (Radiotherapy) at Tartu Health Care College was carried out on the 14th and 15th of March 2022.

In order to carry out the re-assessment, EKKA formed an expert panel, which includes experts from higher education institutions, outside higher education institutions and student representatives. EKKA coordinated the composition of the expert panel with the higher education institution.

The following members formed the expert panel:

Graciano Paulo (Chair)	Full Professor, President of Coimbra Health School of the Polytechnic Institute of Coimbra, Portugal
Genevieve Sandon	Retired Post Graduate Radiography Programme Lead and Lecturer in Radiography, Birmingham City University, UK
Shane Foley	Associate Professor, Radiography & Diagnostic Imaging, School of Medicine, University College Dublin, Ireland
Meeri Vainola	Student, Tallinn University of Technology TalTech (Digital Health MSc); Coordinator of educational communication at TalTech Student Union, Estonia

Assessment process

The members of the expert panel completed the re-assessment training organized by EKKA. The members of the panel worked through the documents submitted by the higher education institution. During the preparatory meeting for the assessment visit, the panel prepared a preliminary visit plan, which was coordinated with the institution and EKKA. The members of the panel agreed on the topics to be clarified based on the documents submitted by the higher education institution. The division of labour and tasks were agreed in the panel for the assessment visit.

The assessment visit to the higher education institution took place during two days by online meetings, via Zoom platform, on the 14th and 15th of March 2022. The panel conducted the interviews with Tartu Healthcare College representatives, according to the agreed schedule.

EKKA sent the initial report of the panel to the higher education institution for comments on 13 April 2022.

Tartu Health Care College informed EKKA on 28 April 2022 that the College has no clarifications or comments on the report.

The panel submitted the final report to EKKA on 29 April 2022.

2. A brief summary of the results of the assessment and their justifications

EXPERT PANEL'S DECISION:

ASSESSMENT AREA	CONFORMS TO THE REQUIRED STANDARD	PARTIALLY CONFORMS TO THE REQUIRED STANDARD	DOES NOT CONFORM TO THE REQUIRED STANDARD
QUALITY OF INSTRUCTION	X	<input type="checkbox"/>	<input type="checkbox"/>
RESOURCES	X	<input type="checkbox"/>	<input type="checkbox"/>
SUSTAINABILITY	X	<input type="checkbox"/>	<input type="checkbox"/>

Note: the order of the bullet points do not represent the importance or priority of the items.

Strengths:

Main strengths arising from analysis of all three assessment areas.

- The national support for the programme (other universities; professional societies; clinical partners; Ministry of Education and Research).
- The family like concept between all the College structure and staff, departments, healthcare services with the students.
- The mix of experiences since that students and teaching staff from different countries/backgrounds.
- Students and teachers are highly satisfied with the approach to learning and teaching of the programme.
- Practical training of the students is linked to hospital radiotherapy departments, which improves their competence in critical thinking, problem-solving, and advanced patient care.
- The low number of students enrolled in the programme allows a “personalized student approach”, which included flexibility in timetable delivery as well as identifying personal learning needs for individual students and addressing these as they arise.
- The use of varied specialist visiting lecturers with individual areas of expertise within the field of radiotherapy.
- The employment of alumni into teaching roles to support master's programme.
- Availability of access to radiotherapy simulators supporting clinical experience.
- Teaching staff are being actively recruited from the current cohorts of master's students to assist the sustainability of teaching within the programme into the future.

Areas of concern and recommendations:

Main areas of concern and recommendations arising from analysis of all three assessment areas.

- There was little evidence provided to show a structured teaching and learning continual professional development programme particularly for novice teachers. The panel suggests that the programme team institute and evidence a structured CPD system for teaching staff.
- With the continued successful graduation of cohorts of master's students, there may be less clinical need for further graduates which could result in less support (training time, supervision etc.) from employers and less demand from Estonian radiographers into the future. The panel recommends developing a strategy to encourage more international students onto the programme to ensure financial sustainability.
- Although the panel was reassured by the evidence presented regarding College and Ministry of Education and Research support for funding of the programme, it would be important for the programme to consider and prepare future projections for financial resources needed for conducting high quality studies in the study programme group. This should include budget plans specific to the programme with the aim to align income with expenditure to avoid total reliance on College funding. Additionally, no formal risk assessment specific to the programme was available for review, which needs to be considered.

Opportunities for further improvement

- Considering that the programme is new, we recommend that the board meetings, with internal and external stakeholders, should be organized in a more periodic and standardized way, discussing developments of the programme.
- Strategies should be implemented to increase the number of admissions in the programme, including the implementation of a funding process to attract students.
- Profiling of research areas by the College is highly recommended to strengthen future collaboration with international partners.
- Considering the high technological developments in the field of radiotherapy, international student mobility should be enhanced according to their working and personal life situations.
- Consideration of an introductory training in IT for all students to ensure the student has a positive experience of the excellent facilities available to them online, especially as this is an international program and students may be admitted with differing IT experience.
- The panel would suggest that the possibility of future part-time study should not be dismissed as this would further enable students to manage their finances and spread the cost of the programme study fees.
- Consider re-establishment of the scholarship fund.

3. Analysis of the MSc programme in Radiography (Radiotherapy) by assessment areas and criteria

3.1. QUALITY OF INSTRUCTION

3.1.1.1. *Launching and developing of the study programme is based on the Development Plan of the higher education institution, national development plans and analyses (including labour market and advisability analyses) and strives for top quality.*

Evidence and analysis:

The programme development is based on the College Development Plan. The Development Plan 2021–2025 includes, as one of the strategic goals, the continuous and systematic programme development that is considering the needs of the labour market and society, as well as follows the international development trends of the field.

The programme was also developed in accordance with the Estonia Against Cancer Plan 2021-2030 and international recommendation documents and was validated by the Pedagogical Board and by the College Council, the highest decision-making board, that also includes students.

In the interview the Rector of the College mentioned the importance of this Master programme as a strategic tool to incorporate future graduates into the teaching staff of the programme and to promote it across the Baltic countries.

Considering that Radiotherapy Departments are growing, and this is the only programme available in Estonia, it is considered as crucial by the main stakeholders, including the professional society of radiographers, to have it available, despite the low admission numbers, to increase the knowledge, skills and competences in this professional field of practice and also to facilitate professional free movement.

During the interview with students and alumni, it was clearly expressed the satisfaction with the quality of the programme, especially since they have contact with a large spectrum of lecturers, from different origins and experience which contributes to the enrichment of the content delivered.

Also, the employers were satisfied with the level of competences obtained in this programme.

The criterion conforms to the requirements.

3.1.1.2. *Employers and other stakeholders of the study programme group are involved in the study programme's development.*

Evidence and analysis:

The Programme Board, involving 15 members, takes part in the development of the Programme. The Board comprises of the representatives of the employers at different levels of the health care system, the representatives of the Estonian Radiographers' Society, as well as the representatives of students, including master's students. The Programme Board holds meetings once a year to discuss the issues related to the Programme and approve the eventual changes.

During the interviews with head of programme, teaching staff, students, alumni, and employers, it was evident the involvement of all in the discussion of the programme and the definition of the level of knowledge, skills and competences of each syllabus.

Employers assured that the MSc students have a much more in-depth knowledge base and have a better understanding of anatomical structures and all aspects of imaging, extremely important in the field of radiotherapy, when compared with the graduates from the bachelor programme. Was important to note that they would encourage others to join the programme.

Considering the exponential growth of technological development in the field of Radiotherapy, the expert panel suggests that the programme board should meet more often, including in the meetings (at least before the launch of each new programme edition) the stakeholders, students and alumni.

These meetings should be better documented, and evidence of the contributions should be made available.

The criterion conforms to the requirements.

3.1.1.3. The study programme meets the requirements and trends in international legislation that regulate the professional field, and if an occupational qualification standard exists takes into consideration the acquisition and implementation of the knowledge and skills described therein.

Evidence and analysis:

The education and training in radiotherapy across Europe is highly heterogeneous. The fact that Estonia has opted for a first cycle for radiography with less than 240 ECTS, does not allow to get the needed full competences in radiotherapy. Therefore, the Master programme is the only opportunity to develop knowledge, skills and competences (KSC) in that specific field.

Analysing the programme structure and the evidence gathered through the interviews with the teaching staff, programme developers and employers, it resulted clear for the panel of experts, that the graduates have KSC at level 7 in radiotherapy, in line with the European Society for Radiotherapy and Oncology (ESTRO) level 7 postgraduate benchmarking guidance.

The programme structure meets the international qualification standards.

The criterion conforms to the requirements.

3.1.1.4. The learning outcomes of the study programme are equivalent and comparable to the learning outcomes of the academic cycles of higher education described in Annex 1 of the Standard of Higher Education.

Evidence and analysis:

The programme consists of modules; the comparative analysis of the learning outcomes of the programme and the modules has been completed; the conformity with the higher education standard has been evaluated. Radiotherapy Radiographer competences of the graduates are ensured by integrating theory into practice in collaboration with stakeholders. In the panel's view the learning outcomes of the programme are comparable to the standards described above.

The criterion conforms to the requirements.

3.1.1.5. *Different parts of the study programme form a coherent whole. The title of the study programme is consistent with the content and the structure; and content of the study programme supports the acquisition of the objectives and learning outcomes of the study programme.*

Evidence and analysis:

The different parts of the study programme form a coherent whole. The curriculum of the Master Programme in Radiography (Radiotherapy), with 120 ECTS (2 years) includes 4 main modules, evolving through the four semesters. The programme aims to create the conditions for a deepening of knowledge in the field of radiotherapy and to support the continuing education of the student. The completion of the studies provides the opportunity to acquire KSC at level 7.

The title is appropriate and reflects the content of the master programme and also the recommendation from the previous panel evaluation report.

The criterion conforms to the requirements.

CONCLUSIONS AND ASSESSMENT: STUDY PROGRAMME

The study programme conforms to the required standard.

Strengths

- The support from employers for students to attend the course.
- The national support for the programme (other universities; professional societies; clinical partners; Ministry of Education and Research).
- The strategy to incorporate the new graduates into the teaching staff.
- The family like concept between all the College structure and staff, departments, healthcare services with the students.
- The mix of experiences since that students and teaching staff from different countries/backgrounds.

Opportunities for further improvement

- Considering that the programme is new, we recommend that the board meetings, with internal and external stakeholders, should be organized in a more periodic and standardized way, discussing developments of the programme.
- Strategies should be implemented to increase the number of admissions in the programme, including the implementation of a funding process to attract students.

3.1.2. Learning and teaching

3.1.2.1. *Conditions for admission and graduation are clear and transparent; requirements to prospective students stem from prerequisites for the completion of the study programme.*

Evidence and analysis:

Considering the interviews with the alumni and students, they are well informed about the programme and all relevant information was made available through several channels (essentially through social media and College webpage).

The application process is clear, and the admission criteria well understood and available through the documents that regulate the admissions procedure.

The number of applications for the two admissions, since the beginning of the programme, was homogeneous (35 and 32 respectively), however the number of students that were enrolled in the programme was low (6 and 8 respectively). However, due to several issues (mainly financial), some of the students have left the programme.

The criterion conforms to the requirements.

3.1.2.2. *Academic staff members are aware of the objectives of the study programme and their role in achieving these objectives.*

Evidence and analysis:

Results of the teacher feedback survey demonstrate a clear understanding of the complete Programme. They consider the content and volume of theoretical subjects sufficient for students to perform their practical training in the clinical environment.

In the interviews, the lecturers demonstrated that they are fully aware of the learning outcomes of the study programme and the competence framework integrated into the curriculum.

The criterion conforms to the requirements.

3.1.2.3. *Study methods motivate learners to take charge of their studies and achieve learning outcomes.*

Evidence and analysis:

The study and assessment methods included (e.g. written test, presentations of clinical cases with discussion, outputs from working groups, etc.), defined in the Self-Evaluation Report, are considered adequate for the programme, as a wide range of study methods were integrated into the course namely the use of simulation training equipment available at the College, face-to-face training regarding the preparation of masks for radiotherapy, as well as virtual simulation programs regarding CT and MRI.

During the pandemic situation, students were consulted about their personal situation to study. The College applied flexible adjustments to support students' tasks and workload when studying. Students

indicated that the College was flexible regarding their study plans and lecturers were supportive and understanding. Lecturers adapted well to digital teaching during the pandemic.

In the interview discussion with the teaching staff and students it became evident that teaching methods are used to also develop students' competence, for example their collaboration, critical thinking and decision making.

The criterion conforms to the requirements.

3.1.2.4. Appropriate methods are used for the assessment of learning outcomes; assessment is transparent, objective and supports the development of students.

Evidence and analysis:

The methods used for assessing the learning outcomes are adequate. These include assessment of the knowledge gained as well as the student ability to show understanding and their ability to evaluate and apply their skills. This was evidenced during the interviews with the students, that also referred to the importance of explaining better the syllabus, mainly for students outside Estonia, since foreign students were often not familiar with the methodology. It was also mentioned that students were informed about the grade obtained in each assessment, as a strategy to help them to understand the mistakes made.

The evidence resulted from the student's feedback indicate that they are in general satisfied with the assessment model implemented.

Considering that most of students are already working, there are periods of higher workload to fulfil the tasks that are required

The criterion conforms to the requirements.

3.1.2.5. The content and volume of independent work and practical training (in the case of doctoral studies, implementation of professional activities) support the achievement of learning outcomes of the study programme.

Evidence and analysis:

Practical training is considered adequate and is designed to support the students to obtain the needed KSC in the field of Radiotherapy. Evidence shows the importance of having the possibility of access to the simulation training equipment as well as virtual simulation for CT and MRI, which in combination with access to real clinical scenario with patients and radiotherapy equipment, contributes better to the student development.

Independent learning is included in all syllabi and were considered adequate by the students.

The criterion conforms to the requirements.

3.1.2.6. *The academic staff members have adequate teaching competences in order to support the autonomy of students and ensure adequate and professional supervision.*

Evidence and analysis:

The teaching staff (from the College and from outside) are highly competent in teaching their subjects and are professionals in their own field. During the interview, students highlighted the supportive learning environment that teaching staff provides to students.

The staff evaluation is conducted using clear evaluation and competence criteria. Teachers must engage in self-evaluation and leadership evaluation.

There is evidence that the College supports continuing education of teachers in the form of another degree or attending courses and in doing research.

From the short student survey presented by the College, there is evidence that students recognize the quality and engagement of the teaching staff in supporting and promoting students' autonomy.

The criterion conforms to the requirements.

3.1.2.7. *The level and volume of research, development and creative activities of academic staff is sufficient to provide instruction and supervise academic work by students in the appropriate cycle of higher education.*

Evidence and analysis:

According to the information presented in the Self-Evaluation Report, the number of high-level publications is increasing every year. During the interview with the programme leaders and developers it was said that the college is raising their own next generation of teachers, with also a high interest in research, some of them already in process of obtaining a PhD degree. Teachers are encouraged to be active in research and development projects.

Although the panel recognizes that the programme is in its infancy, they suggest developing a radiotherapy specific research strategy for THCC, which could incorporate the outputs from student's research thesis.

The criterion conforms to the requirements.

CONCLUSIONS AND ASSESSMENT: LEARNING AND TEACHING

Learning and teaching conform to the required standards.

Strength

- Students and teachers are highly satisfied with the approach to learning and teaching of the programme.

Opportunity for further improvement

- Profiling of research areas by the College is highly recommended to strengthen future collaboration with international partners.

3.1.3. Organisation of studies

3.1.3.1. *The organisation of studies is unambiguously regulated and information thereof publicly available; it allows to cater for the needs of different learners as well as specificities of the study programme group.*

Evidence and analysis:

The organisation of the study is regulated by the study regulations, which set out the rights, duties and responsibilities of the students and the teachers, and it is publicly available on THCC website. The organisation of the study considers adult students working full-time in the health sector; the study is scheduled in cycles of maximum three contact study days every other week. The students know the timetable well in advance.

Feedback from students and graduates shows that they are generally not interested in part-time studies, because they have to plan time for work, study and family, so the time that can be used for studies is very limited.

The overall satisfaction with the organisation of studies is 3.97 in a 5-point scale

The criterion conforms to the requirements.

3.1.3.2. *Practical training (in doctoral studies applied professional activities) is regulated, requirements for the completion of practical training have been laid down and preliminary agreements concluded with organisations offering opportunities for practical training.*

Evidence and analysis:

The organization of practical training is regulated in the Study Regulations and the Procedure for Practical Training. Quality agreements have been concluded with all institutions for practical training, free of charge for the College, which regulate the training courses offered by the College to supervisors of practical training in order to guarantee the quality of the supervision of practical training.

Lead Teachers negotiate with institutions suitable for practical training and specify the objectives of the practical training in detail.

The criterion conforms to the requirements.

3.1.3.3. *The higher education institution has in place rules for academic recognition as well as for recognizing prior studies and work experience; these are implemented in the study programme group under assessment.*

Evidence and analysis:

Prior learning experiences are recognised in accordance with the procedure for recognition of prior learning and professional experience (RPL), as regulated in the study regulations.

Students who have studied radiotherapy previously or have relevant work experience can apply for recognition of the prior learning and work experience. A student who has worked over 5 years in radiotherapy before admission, is entitled to get a portion of practical training passed. Two students

have used this opportunity, although they still passed all the independent learning assignments as this was considered valuable in linking the current knowledge with the prior knowledge for a comprehensive whole. Students who have passed the one-year specialisation course in radiotherapy are offered the opportunity to recognize the prior learning to pass the subjects/topics identical to the courses in Master studies.

The criterion conforms to the requirements.

3.1.3.4. *Students enrolled in the study programme group have access to counselling (study; career and preferably psychological counselling); there are effective measures in place for supporting academic progress of students and preventing premature leaving.*

Evidence and analysis:

Counselling is provided to master's students on the same basis as students at other educational levels. The 'Study Related Facilities Financial Data' document shows that there are six student study and career counsellors available to students.

Psychological counselling is also available and since January 2022, also the international students can get counselling service in English.

The criterion conforms to the requirements.

3.1.3.5. *Students enrolled in the study programme group **participate** in international mobility programmes.*

Evidence and analysis:

The panel recognised that as an international study programme, admissions already include students from other countries. The College does have a student mobility process in place which students have the opportunity to apply for, usually under the Erasmus+ programme. However, due to the pandemic situation, there was no possibility to make it effective for admissions to date. This was heard on multiple occasions from students during the panel interviews, which did show ongoing student interest. The panel recommend the program recommences student mobility programmes as soon as feasible.

The criterion partially conforms to the requirements.

3.1.3.6. *Fair and transparent rules for dealing with complaints are used in the study programme group.*

Evidence and analysis:

Clear description and explanation of dealing with complaints in the College is not reported in the Self-Evaluation Report. However, the organization of studies is regulated by the Study Regulations, setting the rights, obligations and responsibilities of the students and teachers, which additionally includes a mechanism for appeals according to the 'Challenges to decisions' section. The College also provides counselling to their students in all matters.

The criterion conforms to the requirements.

3.1.3.7. *Regular internal assessment is conducted in the study programme group, including the analysis and taking into account of feedback from various stakeholders (students, alumni, employers, academic staff).*

Evidence and analysis:

The rules and procedure for internal programme evaluation are described in the Statutes for Curricula of Tartu Health Care College.

The feedback collected from students and graduates is a valuable input for programme development and quality assurance of the study process. There is also a central feedback system from students (learning, subject, satisfaction, module) and additional data by surveys is collected to get more feedback and evaluation for curriculum development. The College also offers open discussions with students to improve quality. The panel heard evidence of mostly informal oral feedback being received from stakeholders (including employers, clinical staff, etc.). As stakeholders were in close contact with the programme leaders this feedback was reported as frequent but not documented. All feedback is received by the head of the department to make further changes and implementation plans.

The criterion conforms to the requirements.

CONCLUSIONS AND ASSESSMENT: ORGANISATION OF STUDIES

The panel considers that the organisation of studies of this master programme conforms to the requirements.

Strengths

- Practical training of the students is linked to hospital radiotherapy departments, which improves their competence in critical thinking, problem-solving, and advanced patient care.
- The College has invested in building strong and various support systems for students. The College management, developers and lecturers all are strongly involved to support students' progress and expertise development.
- There is a "family-like" environment amongst College leadership, teachers, students, and external stakeholders.
- The low number of students enrolled in the programme allows a "personalized student approach", which included flexibility in timetable delivery as well as identifying personal learning needs for individual students and addressing these as they arise.

Opportunities for further improvement

- Considering the high technological developments in the field of radiotherapy, international student mobility should be enhanced according to their working and personal life situations.

CONCLUSIONS AND AGGREGATED ASSESSMENT: QUALITY OF INSTRUCTION

The panel considers that the quality of instruction of this master programme conforms to the requirements.

Strengths

- The support from employers for students to attend the course.
- The national support for the programme (other universities; professional societies; clinical partners; Ministry of Education and Research).
- The strategy to incorporate the new graduates into the teaching staff.
- The family like concept between all the College structure and staff, departments, healthcare services with the students.
- The mix of experiences since that students and teaching staff from different countries/backgrounds.
- Students and teachers are highly satisfied with the approach to learning and teaching of the programme.
- Practical training of the students is linked to hospital radiotherapy departments, which improves their competence in critical thinking, problem-solving, and advanced patient care.
- The College has invested in building strong and various support systems for students. The College management, developers and lecturers all are strongly involved to support students' progress and expertise development.
- There is a "family-like" environment amongst college leadership, teachers, students, and external stakeholders.
- The low number of students enrolled in the programme allows a "personalized student approach", which included flexibility in timetable delivery as well as identifying personal learning needs for individual students and addressing these as they arise.

Opportunities for further improvement

- Considering that the programme is new, we recommend that the board meetings, with internal and external stakeholders, should be organized in a more periodic and standardized way, discussing developments of the programme.
- Strategies should be implemented to increase the number of admissions in the programme, including the implementation of a funding process to attract students.
- Profiling of research areas by the College is highly recommended to strengthen future collaboration with international partners.
- Considering the high technological developments in the field of radiotherapy, international student mobility should be enhanced according to their working and personal life situations.

3.2. RESOURCES

3.2.1. Academic staff

3.2.1.1. Requirements for academic staff are based on the Higher Education Standard and further rules put in place by the higher education institution, procedures for the selection and recruitment of staff are fair and transparent.

Evidence and analysis:

There is a robust and clear process for the selection and recruitment of staff evidenced within the course documentation Conditions and Procedure for Evaluation of Qualifications of Teaching and Research Staff at Tartu Health Care College.

Recruitment of teaching staff is mainly by local knowledge of the programme as Estonia is a small country and there are currently only two radiotherapy centres. Evidence of newly recruited alumni was seen through both documentation review (Self-Evaluation Report) and questioning at the panel event.

The information provided about academic staff revealed a wide-ranging list of very well qualified staff. It is recognised that the programme is supported by not only academic staff but also very experienced radiography staff and this is to be commended as it was one of the original objectives of this master's programme when it was validated and approved there years ago.

The criterion conforms to the requirements.

3.2.1.2. The qualifications of academic staff members meet the requirements laid down in legislation as well as those stemming from the specificities of the study programme group and academic cycle.

Evidence and analysis:

All the academic teaching staff have a minimum of masters and have impressive CVs in the field of radiography or associated subject areas. This is evidenced within the list of Academic Staff and their curricula vitae which revealed extensive qualifications from masters to PhD, in subject areas related to the radiotherapy profession.

The criterion conforms to the requirements.

3.2.1.3. The number of regular academic staff in the study programme group is adequate and enables achieving the objectives of the study programmes as well as the learning outcomes.

Evidence and analysis:

Evidence from the Self-Evaluation Report and discussions with staff and programme leaders show that there are sufficient regular academic staff that enable the objectives of the master's Programme in Radiography (Radiotherapy). It is recognised that the current, and past cohorts of students were small (4 to 6) but the number of academic staff needed to support larger cohorts of up to 20 students would not be different. An increase in supervisory clinical staff working in the field of radiotherapy would need to be addressed if larger cohorts are recruited in the future.

In addition to contracted experienced teaching staff from Tartu Health College, there are specialist lecturers who support the teaching from Tartu University and many specialist visiting lecturers who contribute to the programme. At the panel event the panel members heard evidence from the students (both current and alumni) that the use of these specialist visiting lecturers was a very positive aspect of the course delivery and welcomed by the students.

The criterion conforms to the requirements.

3.2.1.4. Academic staff members regularly engage in continuing education at institutions of higher education or research from abroad, take part in international research projects and deliver presentations at high level conferences.

Evidence and analysis:

Academic staff members were asked at the panel event for details of continuing professional development, evidence of research from abroad or whether they took part in international research projects and all confirmed.

Review of the list of Academic Staff CVs showed evidence of regular activity in research, with multiple journal article publications as well as conference presentations at both national and international conferences listed.

The criterion conforms to the requirements.

3.2.1.5. Regular academic staff members have undergone required attestation and/or received regular feedback on their performance; and have been topping up their professional and pedagogical skills.

Evidence and analysis:

Within the Self-Evaluation Report there is evidence that feedback on teacher performance is provided within the development interview which is conducted at least once per academic year by the Head of Department. Evidence was also seen in the Conditions and Procedure for Evaluation of Teaching and Research Staff of Tartu Health Care College.

Both teaching staff and programme leaders were asked at the panel event about the level of regular feedback given to teaching staff. There was evidence of regular written and documented feedback at both the midway and end of module points. This feedback was used to develop and improve the programme at appropriate times. The panel was not able to identify any evidence of peer review of teaching within the College, but teaching staff attended annual performance reviews where any discussions regarding teaching delivery issues can be discussed.

At the panel event there was no evidence of continuing professional development (CPD) or teaching development support for new teaching staff and for clinical supervisors. At the panel event it was identified that there was evidence of clinical supervision from radiotherapy staff who had no continual professional development in the role of clinical supervision. It is acknowledged that student feedback is sought and acted upon but clinical supervision of master's students in radiotherapy was carried out by a bachelor's qualified radiographer who had not been given additional certification for this role.

The criterion conforms to the requirements.

CONCLUSIONS AND ASSESSMENT: ACADEMIC STAFF

The academic staff conforms to the required standard.

Strengths

- Very accomplished, highly qualified and research active teaching staff support the programme.

- The use of varied specialist visiting lecturers with individual areas of expertise within the field of radiotherapy.
- The employment of alumni into teaching roles to support master's programme.

Area of concern and recommendations

- There was little evidence provided to show a structured teaching and learning continual professional development programme particularly for novice teachers. The panel suggests that the programme team institute and evidence a structured CPD system for teaching staff.

3.2.2. Learning and teaching environment

3.2.2.1. There are facilities (lecture rooms, labs, seminar rooms, rooms for independent work by students etc.) available for studies and study-related research, development and creative activities; these are adequately furnished and equipped with up-to-date equipment needed for achieving the objectives of the study programmes.

Evidence and analysis:

Teaching facilities were not visited in person but reviewed virtually. Evidence is identified within the Self-Evaluation Report of the impact of COVID and the move to virtual teaching via Zoom and the Big Blue Button on Moodle. Interviews at the panel event of the current students and alumni revealed that the students enjoyed this delivery of teaching and the flexibility that lectures could be recorded and reviewed at times better suited to the student. It is noted that this is useful to students who were working and could therefore plan their study time. Revision of lecture content was also enabled by recording sessions.

The students had access to radiotherapy specific equipment including position and mask preparation. In addition to this during the panel event alumni students informed the panel that there was access to the treatment room and simulated roles. Access to radiotherapy simulators was identified as very good experience and gave the student hands-on experience and a sense of clinical responsibility.

The criterion conforms to the requirements.

3.2.2.2. Research, development and creative activities in the study programme group are supported by adequate amount of up-to-date and pertinent textbooks, research publications and other study materials, access to research databases is ensured.

Evidence and analysis:

Within the Self-Evaluation Report the College library details are extensive and there are available catalogues that support the subjects studied in the master's programme and in particular the field of radiotherapy. The study infrastructure showed evidence of a comprehensive access to up-to-date and pertinent textbooks, research publications and access to research databases.

At the panel event interviews it was identified that some of the alumni initially encountered problems with accessing the library online, but further discussions with programme leaders revealed that this was an issue with password access and once the problem was raised it was resolved immediately.

Evidence of students being able to use good research findings and resources used to support a written thesis was identified in a sample thesis supplied by the College from one of the alumni completing the master's programme in radiography (radiotherapy).

The criterion conforms to the requirements.

3.2.2.3. State of the art and fit for purpose information and communication technological solutions, including study information system, document management system, online learning environment support learning and teaching.

Evidence and analysis:

The Self-Evaluation Report gave details of the extensive use of Moodle as the main online study information system. This provides the students with study materials, guidelines for independent learning assignments and e-learning objects. Information technology support for both students and teachers are supplied by education technologists as well as IT specialists.

At the panel event there was no evidence of any issues with the excellent information and communication technological solutions provided by the College to support this programme. The COVID issues dictated a move towards more online learning and the state-of-the-art IT facilities provided were put to the test and excelled. At the panel event when questioned, the academic staff indicated that there was no intention to return to much of the face-to-face delivery of teaching as a result of the positive experience of online course delivery.

The criterion conforms to the requirements.

CONCLUSIONS AND ASSESSMENT: LEARNING AND TEACHING ENVIRONMENT

The learning and teaching environment conforms to the required standard.

Strengths

- Use of Moodle and Zoom to enable online delivery of teaching and individual one to one seminar for students.
- Availability of access to radiotherapy simulators supporting clinical experience.

Opportunity for further improvement

- Consideration of an introductory training in IT for all students to ensure the student has a positive experience of the excellent facilities available to them online, especially as this is an international program and students may be admitted with differing IT experience.

3.2.3. Financial resources

3.2.3.1. *The educational institution has adequate funds necessary for conducting high quality studies as well as for the provision of adequate and up-to-date support services, for implementing learning and teaching related developments and for supporting the development of academic staff.*

Evidence and analysis:

Within the Self-Evaluation Report there is reference to the College finances and annual reports. Income-based budget for the College is formed by state activity support, targeted financing and economic activities. There is evidence that the College budget is robust and has been stable for five years. The budget process for the College is detailed in the Procedure for the Implementation of State Budget Resources and Income Received from Economic Activities at Tartu Health Care College.

Students admitted to the programme either self-fund for their studies or may receive a tuition waiver student place with the decision of the Rectorate of the College. Some individual students have been facilitated with fee waivers to complete their studies and this was supported by their employers, due to the demand for qualified radiotherapy radiographers.

The tuition fee in 2021/2022 is 3300 EUR per academic year. With small cohort sizes of 4 – 6 students, it is questionable that this programme is financially viable. However, the panel was informed during interviews that both the Government and the College have agreed to support the programme due to the national need for masters qualified radiographers to perform planning and assist physicists in radiographers. This is an argument for the continuation of the programme despite the high risk of financial viability.

One of the recommendations cited at the initial course assessment (2019) was the consideration of offering a part-time study pathway for the programme to allow the students to continue to earn an income whilst studying. It is noted within the Self-Evaluation Report and confirmed on questioning the programme leaders at interview that there was no desire from students to study part-time and that both students and employers would prefer early completion of the course. The programme is only offered as full-time study for this reason. The panel has identified that in fact all the students continued to earn a salary at the same time as studying. This was possible because the lectures were delivered on two days of the week and the online delivery enabled students to manage their study time around their working hours. There was also considerable support from the employers.

The criterion conforms to the requirements.

3.2.3.2. *The higher education institution has sufficient funds for research and development activities related to the study programme.*

Evidence and analysis:

The costs related to research and development for the college is on average 100,000 euros per year and the development of research and development activities is one of the priorities in the College Development plan 2021-2025. This is evidenced in the Self-Evaluation Report.

At the panel event it was evidenced that there is now funding for further research projects (within the field of radiography) for alumni of 10,000 EUR.

The criterion conforms to the requirements.

3.2.3.3. *The higher education institution has a long-term strategy for ensuring the sustainability of financial resources, including a risk analysis and financial projections. The strategy describes, among others, risks stemming from the operating environment and planned mitigating measures thereof.*

Evidence and analysis:

Within the Self-Evaluation Report it is noted that the assurance strategy and risk analysis of the College financial resources are described in the Strategy for Financial Resources Assurance, Potential Risks and Risk Management Activities at Tartu Health Care College and approved by the rectorate resolution.

Insufficient financial resources may become a considerable risk factor in recruiting students from third countries. This has been demonstrated by some students who discontinued their studies on the programme, but this was also hindered by the COVID pandemic.

The College has contributed to the establishment of a scholarship fund, although it is noted that this has been suspended during the issues of COVID pandemic.

The panel was informed by both students and programme leaders at the panel event that some students were supported by being able to spread the payments of tuition fees.

The criterion conforms to the requirements.

3.2.3.4. *Financial reports for the higher education institution or keeper thereof are publicly available. Annual reports for the higher education institution or keeper thereof have undergone financial auditing unless stipulated otherwise in legislation.*

Evidence and analysis:

The Self-Evaluation Report states that economic activities of the College are provided in annual reports that are available to the public on the College website. The annual report and the report on budget implementation are adopted by the College Council and submitted to the Ministry of Education and Research. Economic activities of the College, as well as the use and maintenance of state asset by the College are audited by the Ministry of Education and Research as well as the State Audit Office.

The criterion conforms to the requirements.

CONCLUSIONS AND ASSESSMENT: FINANCIAL RESOURCES

The financial resources conform to the required standard.

Strengths

- It is commendable that the College is supporting the students with wavering of tuition fees in recognition of the national clinical demand for more master's qualified radiographers in the field of radiotherapy.
- The College has facilitated a spread of payments from students rather than the full tuition fees in upfront payment.

Area of concern and recommendations

- With the continued successful graduation of cohorts of master's students, there may be less clinical need for further graduates which could result in less support (training time, supervision etc.) from employers and less demand from Estonian radiographers into the future. The panel recommends developing a strategy to encourage more international students onto the programme to ensure financial sustainability.

Opportunities for further improvement

- The panel would suggest that the possibility of future part-time study should not be dismissed as this would further enable students to manage their finances and spread the cost of the programme study fees.
- Consider re-establishment of the scholarship fund.

CONCLUSIONS AND AGGREGATED ASSESSMENT: RESOURCES

The resources conform to the required standard.

Strengths

- Very accomplished, highly qualified and research active teaching staff support the programme.
- The use of varied specialist visiting lecturers with individual areas of expertise within the field of radiotherapy.
- The employment of alumni into teaching roles to support master's programme.
- Use of Moodle and Zoom to enable online delivery of teaching and individual one to one seminar for students.
- Availability of access to radiotherapy simulators supporting clinical experience.
- It is commendable that the College is supporting the students with waiving of tuition fees in recognition of the national clinical demand for more master's qualified radiographers in the field of radiotherapy.
- The College has facilitated a spread of payments from students rather than the full tuition fees in upfront payment.

Areas of concern and recommendations

- There was little evidence provided to show a structured teaching and learning continual professional development programme particularly for novice teachers. The panel suggests that the programme team institute and evidence a structured CPD system for teaching staff.
- With the continued successful graduation of cohorts of master's students, there may be less clinical need for further graduates which could result in less support (training time, supervision etc.) from employers and less demand from Estonian radiographers into the future. The panel recommends developing a strategy to encourage more international students onto the programme to ensure financial sustainability.

Opportunities for further improvement

- Consideration of an introductory training in IT for all students to ensure the student has a positive experience of the excellent facilities available to them online, especially as this is an international program and students may be admitted with differing IT experience.

- The panel would suggest that the possibility of future part-time study should not be dismissed as this would further enable students to manage their finances and spread the cost of the programme study fees.
- Consider re-establishment of the scholarship fund.

3.3. SUSTAINABILITY

Aggregated assessment: Quality of instruction conforms to requirements

Aggregated assessment: Resources conform to requirements

3.3.1. Further sustainability criteria

3.3.1.1. Regular development planning and risk management are on-going in the higher education institution, aimed at ensuring the sustainability of high-quality studies in the higher education institution as a whole as well as in the study programme group.

Evidence and analysis:

The panel were provided with two documents in particular specific to this criterion. The *THCC Development Plan 2021-2025* sets out the College plans for the coming period, outlining strategic objectives for the College. Included within this are plans relative to teaching and learning, research and development, service development and internationalisation as well as having key indicators and target levels of development. The College also states that College activity is based on other strategic documents such as the *Education Strategy* (October 2020), *Internationalisation principles in Higher Education and Research until 2035* (May 2020), the draft strategy “*Estonia 2035*” (October 2020), the draft of public health development plan 2020-2030 as well as the vision document “*Professional Higher Education in the year 2035*” issued by the Estonian Rectors’ Conference of Universities of Applied Sciences. The development plan is based on the THCC self-assessment report for institutional accreditation in 2019, the report of institutional accreditation and quality assessment by the Estonian Quality Agency for Higher and Vocational Education. The development plan 2021-2025 is also a continuation of the previous development plan, evidencing regular development planning.

Specific to radiography, the panel were additionally provided with a document titled ‘*Specialisations in the Curriculum: Ultrasound, MRI, Radiotherapy*’, which presents plans for further expansion of the programme into specialist areas of MRI and Ultrasound using basic subjects as common to all specialisations and then separate internship and specialist modules for each.

Within the Self-Evaluation Report it is noted that the assurance strategy and risk analysis of the College financial resources are described in the Strategy for Financial Resources Assurance, Potential Risks and Risk Management Activities at Tartu Health Care College and approved by the rectorate resolution. There was no risk analysis specific for the study programme or department made available for review. During interviews the panel also heard from the Rector and programme leaders on this topic. The panel was initially concerned about the lack of teaching staff in the speciality available nationally but were reassured that the College has plans to recruit future teachers for the programme directly from the current student ranks and thus to be able to self-sustain programme delivery. Also, to date there

is evidence of very good collaboration nationally from contributors to the programme teaching both nationally and internationally. The teaching staff are recognised specialists with a lot of experience in the discipline leading to high-quality studies as reported in Section 3.2. When asked the Rector regarded as low risk the potential for newly developed teaching staff to move to another College, due to the strong loyalty and culture at the College. The panel was informed that teaching salaries in Estonia are lower than in clinical settings, so the College relies on highly motivated colleagues and uses many clinical staff to teach on the programme.

Regarding the financial viability of the programme, the Rector informed the panel that the financial risk was one the College *'had to take'* given the strategic importance of the programme to national developments of education in this field. The Rector also informed the panel that the Ministry of Education and Research and State were supportive of the programme and the College were not dependent on private income, as the master's programme is part of the general budget allocation for the College now. There are plans to increase student numbers. The expert panel were also provided with a document titled *'Study related facilities Financial Data'* which showed stable financial data for the past three years despite the pandemic.

The panel are therefore reassured that the sustainability of high-quality studies within the programme for the foreseeable future.

The criterion conforms to the requirements.

3.3.1.2. Development trends for student admissions, graduations and budgetary resources indicate sustainability of the higher education institution as a whole and the study programme group under assessment.

Evidence and analysis:

As per Section 3.2.3.1 there is reference to the College finances and annual reports. Income-based budget for the College is formed by state activity support, targeted financing and economic activities. There is evidence that the College budget is robust and has been stable for five years.

The panel was provided with a document titled *'Student Information'* which outlined the student admissions to date on the programme as well as projected admissions for the coming 3-year period. The number of applications for the two admissions, since the beginning of the programme, was homogeneous (35 and 32 respectively), however the number of students that were enrolled in the programme was low (6 and 8 respectively). However, due to several issues (mainly financial), some of the students have left the programme. The programme team anticipate a growth in student numbers to a maximum of 10-12 per specialisation. Student applications to the programme to date have been much higher than the final admissions and the panel was informed that most applicants did not meet the minimum criteria for acceptance onto the programme. Additionally, a number of admitted students did not complete the programme due to financial issues.

The expert panel identified from the outset that the low student admission numbers could potentially make the programme unfeasible financially, considering the low registration fees and sizeable teaching staff required for delivery of the programme and associated resources. However, as outlined in 3.3.1.1, were reassured by the Rector and the Programme leads that the programme is strategically important to the College and State and thus will continue to be funded and supported by both the College and State. The financial data supplied in the *'Study related facilities Financial Data'* document

demonstrates stable income for the College in recent years, the vast majority of which comes in the form of state subsidies for education. The panel however suggest that the programme team aim to ensure the programme is self-sustaining through alignment of admissions with programme costs, to avoid total dependence on general College resources.

The panel was also informed that although student financial support was not available for the first course, admitted students from other Baltic states can study in THCC with financial support from their employers and some official THCC supports exist on a case-by-case basis for students e.g., small amounts decided by the Pedagogical Board. Additionally, it has now been made possible to divide tuition fees into monthly payments etc.

The criterion conforms to the requirements.

3.3.1.3. The higher education institution has a long-term financial projection of financial resources needed for conducting high quality studies in the study programme group and sources for the provision thereof, which takes into account risks stemming from the operating environment.

Evidence and analysis:

Financial data was supplied in the 'Study related facilities_Financial Data' document for the years 2018-2020 and the Self-Evaluation Report refers to stable College finances for the last five years, averaging 4.2million. The College has a long-term financial projection described in the financial projection of the 'Development Plan 2021-2025'. Risk analysis of the College financial resources are described in the 'Strategy for Financial Resources Assurance, Potential Risks and Risk Management Activities at Tartu Health Care College' and approved by the rectorate resolution. However, as the vast majority of income stems from state subsidies for education there is no indication this will change substantially in the coming years. As the programme is being supported by both the College and State for national strategic purposes, the panel are not aware of any significant risks to this.

The most obvious risk to the programme was perceived by the panel as the low student admission numbers, which are likely partially attributable to the early stage of the programme and the small number of radiotherapy facilities in the country. However, the panel were additionally provided with a document titled 'Specialisations in the Curriculum: Ultrasound, MRI, Radiotherapy', which presents plans for further expansion of total student numbers to 18-30 and added to the College and Ministry support for the programme should ensure its financial viability.

The stable College financial data and ongoing support for the programme reassures the panel that there is adequate financial support for the programme.

The criterion conforms to the requirements.

3.3.1.4. The age structure of academic staff as well as share of young teachers ensures sustainability of instruction provision in the study programme group.

Evidence and analysis:

The panel reviewed evidence contained within the 'Academic Staff' document, which presented the age profile of academic staff and all contributing lecturers to the programme. Two of the three academic staff are less than 43 years old, including the new academic lead for the programme. Non-

academic staff (n=23) have a median age of 43 (range: 26-66, mean 45). The panel is reassured that this relatively young age profile of teaching staff will ensure sustainability of instruction provision in the study programme. Additionally, the panel was informed by the Rector and separately by the Programme lead that there is active recruitment of future academic staff for the programme from current students / alumni with two already identified, which will help ensure sustainability within the College.

The criterion conforms to the requirements.

CONCLUSIONS AND AGGREGATED ASSESSMENT: SUSTAINABILITY

Sustainability criteria conform to the required standards.

Strengths

- There is both College and State support for the strategic importance of this programme to healthcare delivery in Estonia.
- Teaching staff are being actively recruited from the current cohorts of master's students to assist the sustainability of teaching within the programme into the future.
- The age structure of the teaching staff contributing to the programme is relatively young and is important for future teaching sustainability.

Area of concern and recommendations

- Although the panel was reassured by the evidence presented regarding College and Ministry of Education and Research support for funding of the programme, it would be important for the programme to consider and prepare future projections for financial resources needed for conducting high quality studies in the study programme group. This should include budget plans specific to the programme with the aim to align income with expenditure to avoid total reliance on College funding. Additionally, no formal risk assessment specific to the programme was available for review, which needs to be considered.