



**HAKA**

Estonian Quality  
Agency for Education

## **Initial assessment of study programme groups**

# **Assessment report on the study programme group of Medicine Master's studies**

**University of Tartu**

**2023**



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# 1. Introduction

## Overview of the assessment process

The initial assessment is carried out by the Estonian Quality Agency for Education (HAKA) if a higher education institution has submitted an application to the Ministry of Education and Research for the right to provide instruction in a study programme group and level of higher education. A higher education institution has to apply for the right to organise studies separately at each level of higher education, i.e., bachelor's studies, master's studies, doctoral studies, integrated bachelor's and master's studies, and professional higher education. A professional higher education institution has to apply for the right to organise studies at the master level for every study programme separately.

Initial assessment is carried out based on the documents submitted by the institution as well as the assessment visit in accordance with the document ***Guidelines for the initial assessment and re-assessment of study programme groups*** approved by HAKA Quality Assessment Council for Higher Education on 14.06.2022.

When an institution applies for the right to provide instruction, it will be 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.

HAKA conducts initial assessment and re-assessment in three assessment areas:

- 1) **Quality of instruction,**
- 2) **Resources,**
- 3) **Sustainability.**

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

Based on the analyses, the expert panel will determine for each assessment area (and their sub-areas), whether it

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

**Based on the assessment report,** HAKA 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 organise studies in the relevant study programme group and level of higher education for unspecified term, for one to three years, or not to grant the right.

**HAKA conducted the initial assessment of the study programme group of Medicine at the level of Master's studies at the University of Tartu. The expert panel assessed the study programme of Clinical Pharmacy.**

In order to carry out the assessment, HAKA formed an expert panel, which included experts from higher education institutions, including one from outside higher education institutions, and a person who had graduated from a higher education institution no more than a year ago. HAKA coordinated the composition of the expert panel with HAKA Quality Assessment Council for Higher Education and the higher education institution.

**The expert panel was composed of the following members:**

Lilian M. Azzopardi (Chair)	Professor and Head of Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta
Marja Airaksinen	Professor of Social Pharmacy, Head of Clinical Pharmacy Group, University of Helsinki
Robert Khachatryan	Member of the panel from outside higher education institutions. Head of Quality Control Section, Department of Education and Knowledge, Government of Abu Dhabi (ADEK)
Kristel Jakobson-Pallo	PwC Advisors Estonia, Senior Consultant, student in Tallinn University

The members of the expert panel completed the initial assessment training organized by HAKA. 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 HAKA. The members of the panel agreed on the topics to be clarified on the basis of the documents submitted by the higher education institution. The division of labour and tasks were agreed in the panel for the assessment visit.

On-line discussions via Zoom with various groups took place on 12<sup>th</sup> and 17<sup>th</sup> of October 2023. The panel talked with the Vice-Rector for Academic Affairs of UT, Dean of the Faculty of Medicine, Head of the Institute of Pharmacy, programme manager and main developers, some members of teaching staff who will be involved on the programme, employers and cooperation partners, and some support staff for teachers and students. All meetings were conducted according to the agreed schedule.

HAKA sent the initial report of the panel to the University of Tartu for comments on 17.11.2023.

The University of Tartu informed on 20.11.2023 that they do not have any comments or clarifications on the report.

The panel submitted the final report to HAKA on 22.11.2023.

## **Short overview of the Faculty of Medicine at the University of Tartu and the study programme group of Medicine at Master's level**

The academic structure of the University of Tartu (UT) consists of the institutes and colleges of four faculties (*valdkond*) and the university's institutions not affiliated to any faculty. The support structure of the university consists of 15 units.

The programme of Clinical Pharmacy belongs to the Institute of Pharmacy at the Faculty of Medicine, which is one of the oldest faculties of the University of Tartu. At present the Faculty of Medicine consists of six institutes: Institute of Biomedicine and Translational Medicine, Institute of Pharmacy, Institute of Dentistry, Institute of Clinical Medicine, Institute of Family Medicine and Public Health, Institute of Sport Sciences and Physiotherapy. The number of students is 2046 (including 163 international students): 1830 bachelor students, integrated bachelor and master's students and master's students, 216 PhD students, 620 residents. The Faculty of Medicine has 620 staff members – 280 teaching staff (including 49 professors), 140 research staff, and 200 non-academic staff members. The institute of Pharmacy currently has around 26 academic employees.

## 2. Assessment results and justifications of assessments

### Expert panel's decision

ASSESSMENT AREA	Conforms to the required standard	Conforms partially to the required standard	Does not conform to the required standard
QUALITY OF INSTRUCTION	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RESOURCES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUSTAINABILITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Justifications of the panel's assessments to the assessment areas

**Quality of Instruction:** The panel reflected on the individual component assessment for Study Programme, Learning and Teaching, and Organisation of Studies. On the basis of the documentation presented including the study programme, programme rationale, reviews and the discussion during the interviews, the panel is of the opinion that in general the assessment area of Quality of Instruction is in conformity with the overarching criteria although some recommendations for further development are given below.

**Resources:** The university has a robust and well-connected infrastructure. The curricula-related infrastructure of the Faculty of Medicine is closely linked with Tartu University Hospital and is spread across various locations in Tartu, including the Maarjamõisa medical campus and the city centre. Overall, the University states that the infrastructure is in good condition and continually evolving. The faculty also maintains modern science labs, working rooms for teaching staff, offices, and auxiliary rooms. This infrastructure assessment by the Panel underscores the readiness of resources to support the current online study programme given the efficiency of overall management at different levels, including institutional, faculty and other. From the perspective of the human resources, the application puts forward a team of academic staff with post-graduate level of education presenting a mix of backgrounds that together complement the strengths and weaknesses in the cohort. Some staff have more experience that is directly linked to the clinical aspect of the programme with less experience to the pedagogical teaching and research methods whereas other staff members have a scholarly track record. From a financial point-of-view, the programme is generating funds through the course fee paid by the student and since the programme is in line with the vision of the University of Tartu, the panel appreciates the commitment of the University of Tartu towards supporting the programme in the initial years.

**Sustainability:** The panel has taken into consideration the assessment areas of Quality of Instruction and Sustainability. Whilst in the current status and in the short-term overall, the panel has deliberated that the assessment areas are in conformity, when taking into consideration the reflections for sub-areas identified as partially in conformity and the short-term evaluation that could be undertaken at this stage of the launch stage of a new programme, the panel is of the opinion that the assessment area of sustainability is partially conforming. This is due to the factors associated with the risks associated with academic staff who are involved in the programme who do not have an affiliation with the Institute, the large diversity and lack of clarity with regards to the supervisory team composition and challenged homogenous supervision across the cohort, and the weakness in risk mitigation from a financial point-of-view.

**Drawn from the analysis below, the panel presents here the main strengths and areas of concern with recommendations.**

### Strengths:

- Employers and stakeholders in hospital, community and regulatory settings are in dialogue with the programme developers and are open to support pharmacists from Estonia to undertake studies including opportunities for research projects to fulfil the Master dissertation obligation within their settings.
- Active learning through the weekly case workings that students have to submit prior to each webinar session ensures the development of relevant skills.
- Students have wide access to counselling (study and career counselling and preferably psychological counselling, also in English language) and the measures for monitoring and supporting academic progress of students have been devised.
- The combination of academically focused staff with teacher-practitioners creates a valuable duality that enhances the likelihood of achieving desired outcomes. This approach brings together the expertise of staff members who are deeply knowledgeable in their academic fields with those who have advanced practical experience in teaching. This synergy can provide a well-rounded educational experience for students.
- The integration of international lecturers and consultants from outside the university in the implementation of the programme is a strength. This international perspective can bring diverse insights, experiences, and global best practices into the programme, enriching the learning environment and broadening students' educational experience. These guest lectures can provide students with real-world insights and practical knowledge, enhancing the relevance and applicability of the curriculum.

### Areas of concern and recommendations:

- The overall learning outcomes are directed towards providing theoretical knowledge of how to do the clinical pharmacy service rather than clinical skills and how this is done in practice. This difference in the competence development as a learning outcome has to be visible in the course prospectus and marketing course materials to ensure academic integrity and align result with expectations of students from the programme. The panel recommends that general objectives of the curriculum be revised to reflect that students who complete the curriculum have developed skills in combining knowledge and adopting a clinical approach rather than receiving training to become competent in clinical practice.
- The current goal set for the thesis to meet scientific quality requirements of an international peer reviewed article may be too ambitious in the context of the time allocated and 30 ECTS awarded considering that the student is involved in research design, data collection and analysis and manuscript submission. The panel recommends develop clear guidelines of deliverable expected from the thesis which may be in the format of a scientific manuscript that however may not have reached submission stage.
- The diversity among the teaching staff in terms of affiliation with the Institute and University of Tartu is a concern from a perspective of retention and responsibility towards commitment and from a perspective of the need for higher level of co-ordination by the programme manager to ensure constant alignment of the academic team with the course objectives, expected learning outcomes and contribution to the student both in the taught components and especially in the dissertation. The panel recommends to the programme manager and developers to develop strategies to overcome challenges presented when handling a large academic team that relies on adjunct and visiting positions.
- Research methodology and theories applied in clinical pharmacy research are very different from methodology applied in other pharmaceutical sciences. The panel recommends ensuring that the teaching staff, particularly supervisors of thesis projects will have adequate competences in research methodology.
- There is no clear plan for international mobility in place for those attending the programme. The prerequisites for fostering international mobility, are there, however, they should be further strategically utilised. It should be thought through, what are the opportunities for students to have (virtual) mobility within the scope of this programme.
- Consider international mobility for the teaching and support staff so as to exchange experiences, develop research collaborative practices and create networking opportunities.
- Access to drug information sources and to journals in the clinical pharmacy area needs to be ensured for all students including the international students.
- The programme lacks a risk analysis with a risk mitigation approach. The panel recommends a risk analysis exercise with mitigations to address risks associated with part time untenured staff, student numbers needed to make the programme viable and maximum student numbers the infrastructure can handle, fluctuating student numbers.
- The panel advises that the programme team looks more into the long-term financial projections among other relevant risks.



## 3. Analysis of the study programme group of Medicine (Master's studies) by assessment areas and criteria

### 3.1 QUALITY OF INSTRUCTION

#### 3.1.1 Study programme

**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 panel was presented with a document explaining the Rationale for the Programme drawn up by the programme manager (Annex 3), accompanied by the following other documents that form the basis of the curriculum: Curriculum of Clinical Pharmacy (Annex 1); Short Description of the Subjects (Annex 2); Syllabus of the elective course: Introduction of the Clinical Pharmacy Practice (5 ECTS credits) (Annex 6); A grading matrix of clinical case (Annex 7); and Teaching staff members (Table 2). The documents also included assessment reports of the content of the curriculum by three external experts from Latvia, Sweden and Northern Ireland, UK (Annex 4), and self-assessment of the curriculum of clinical pharmacy by comparing learning outcomes with the higher education standard (Table 1). The Panel was presented a copy of the Strategic Plan of the University of Tartu 2021-2025, including the financial strategy (Appendix 2) and the Strategic Plan of the Faculty of Medicine 2022-2026.

During the meetings, the vision of the management of the University of Tartu, the Faculty of Medicine and the Institute of Pharmacy was discussed. The responsibility by the academic entity to start the programme to provide pharmacist capacity building in the area of clinical pharmacy to meet the needs of the pharmaceutical services in Estonia was clearly stated. Whilst the panel appreciates the context of the need in Europe and in some other international regions to support clinical pharmacy postgraduate programmes, the scenario presented by the leadership, course developers and labour market were not supported with robust labour market and needs analysis.

The panel concludes that the criterion conforms to 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 panel's discussions with employers in community pharmacy, hospital pharmacy and regulatory settings indicated a receptive outlook towards the programme. It does transpire that stakeholders are supportive of the launch of the programme and there are varying degrees of involvement in the programme development and plans for its implementation after the programme will be started. However, plans of how regular feedback from stakeholders will be followed up once the programme is launched in order to fine-tune the running of the programme and update according to the ecosystem needs are not clear yet. Thus, it is recommended that a process whereby stakeholders are more involved in the programme evolution is planned. The involvement of stakeholders from hospitals and other practice sites applies to the study unit "*Introduction of the Clinical Pharmacy Practice*" that is planned to be an elective part of the programme to provide practical care-oriented skills which are core skills in clinical pharmacy.

Based on the awareness of the stakeholders about the plans for the Institute of Pharmacy to expand the current continuing education e-course "*The Clinical Pharmacy E-Learning Programme*", which has been running since 2022, to a Master's programme, the panel concluded that the employers and stakeholders have a dialogue with the programme developers and that this criterion conforms to 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 panel was presented the Master's study programme of Clinical Pharmacy enclosed to the Application, and a short description of the study units in the programme. During the meetings with the programme manager and the teaching staff, details of the programme were discussed. The programme consists of 90 ECTS of which 30 ECTS are dedicated to Master thesis. The programme is offered over 1.5 years. This is in accordance with the norm adopted in similar post-graduate Master programmes in pharmacy education. Therefore, the panel finds that the criterion conforms to 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 learning outcomes are explicitly and clearly outlined in Annex 1 of the Application document. The programme is intended to be made available online with the possibility that students can follow the totality of the programme through remote learning modality. The learning outcomes of the programme are particularly focused on providing competence in the systematic application of knowledge to medicine use and patient care and since exposure to the practice settings is limited to

a short elective study unit, the overall learning outcomes are directed towards theoretical knowledge of how to do the clinical pharmacy service rather than clinical skills and how this is done in practice. The curriculum learning outcomes reflect the acquisition of knowledge in pharmacotherapy, principles of drug and drug dose selection, and determination and monitoring requirements of drug concentrations. This difference in the competence development as a learning outcome has to be visible in the course prospectus and marketing course materials to ensure academic integrity and align results with expectations of students from the programme. The learning outcomes in the way that the programme is presented currently do not relay the status that the programme is conveying knowledge with limited skills development. With the currently presented format it is recommended that it is explicitly clarified that knowledge is developed rather than training to develop skills.

The panel concluded that the learning outcomes are comparable to the Level 7 degree and that the criterion partially conforms to requirements, and it is suggested that the programme developers consider the recommendations highlighted.

**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 the content of the study programme supports the acquisition of the objectives and learning outcomes of the study programme.**

#### Evidence and analysis

The modules of the programme are coherent although the titles could be improved to reflect better internationally recognized clinical pharmacy philosophy and practices, e.g., “Clinical pharmacy practice research” rather than “Concepts in research in clinical pharmacy”; “Medicines use and care of older persons and paediatrics” rather than “Care of the elderly and paediatric medicines use”.

The programme is in its entirety based on online learning and contains quite a lot of independent solo learning. The lack of compulsory, even short-duration practice experience is a limitation and it is important that the objectives of the programme transmit the specific target of providing the knowledge and ability to handle application of knowledge in patient care scenarios without creating the unfounded expectation that competences in practice are established and developed.

The programme consists of four modules:

1. **Fundamentals of clinical pharmacy practice (15 ECTS).** Regarding the title of the module: The panel suggests revising the title ‘Fundamentals of clinical pharmacy practice’ to ‘Fundamentals of clinical pharmacy’, which would be more accurate, since the module covers overarching philosophy of clinical pharmacy that is not only limited to the practice point of view.

The module is subdivided into three sections including study units dedicated to statistical analysis (5 ECTS) and another dedicated to concepts of research (5 ECTS). The inclusion of concepts of research in clinical pharmacy practice jeopardises the character of the module which is intended to focus on the development of clinical practice competences. It is recommended that the research pedagogics study units are grouped and presented separate to clinical competences and skills development study units. Moreover, at a Master level, the term “introduction to” (statistical analysis) may not be appropriate. Furthermore, instead of talking about “concepts of research” it would be more accurate to name the module/course as “Introduction to research methods in clinical pharmacy”. It can be divided into two parts instead of having the other part focusing on statistics. Statistics can be incorporated in the

research methods training. It is also recommended that the module title is amended to Fundamentals of Clinical Pharmacy since it is an overarching module without the limitation to the practice aspect only.

2. **Applied Therapeutics (35 ECTS).** The content of this module is replicated in the continuing education e-course that the University of Tartu currently offers in Clinical Pharmacy. Plans of how the overlap between the two programmes is being handled and how graduates from the e-course will be evaluated into eligibility to join the Master programme are not clear. Based on the study programme and course descriptions, the emphasis seems to be on clinical pharmacology by therapeutic areas although weekly online case study sessions will be organized where the clinical pharmacy skills development could be emphasised. As this is intended to be an advanced level clinical pharmacy curriculum basing on a Master of Pharmacy degree, introduction to patient-oriented practice could have been made more visible in the documents as a foundation of the entire curriculum. The same applies to introducing key clinical pharmacy practices such as medication reviews that are internationally recognized and recommended contributions of pharmacists in patient care in various care settings. The other important aspect missing from the curriculum is systems thinking in patient and medication safety, recommended e.g., by the WHO to be incorporated in the curricula of all healthcare professionals to have a shared understanding of risk management in patient care (WHO 2011, 2017). Interprofessional education and practice competence development is also quite limited (almost missing) in the current version of the study programme and course descriptions, it is recommended to be extended.
3. **Elective module (10 ECTS).** The study units offered are in the majority of a 2 ECTS value except for Introduction to Clinical Pharmacy Practice (6 ECTS) and Estonian language for foreigners (6 ECTS). During the meetings, it was not clear how the heterogeneity in the background of the applicants due to the international background will be handled. It is recommended to provide clear guidelines on recommendations to students who are advised to undertake the *Introduction to Clinical Pharmacy Practice* study unit in this elective. Regarding the other study units of 2 ECTS, it is concerning to see that at Master level, the study unit value of 2 ECTS is being adopted which limits the depth of knowledge and scholarly development especially considering that these are highly evolving scientific practice areas such as vaccination and oncology.
4. **Master thesis (30 ECTS).** The allocation of 30 ECTS is in line with EU norms for a Master programme. The recommendation is to prepare guidelines with regards to manuscript submission and assessment matrix. The concern is that it may be too ambitious to set the goal of the thesis to fulfil scientific quality requirements of a peer reviewed article. If that is the goal, another concern is the number of credits allocated to the thesis project compared to the actual workload. They need to be in line. It is also surprising that the intention is to focus topics of the thesis projects on traditional pharmaceutical sciences, e.g., nanotechnology, instead of clinical pharmacotherapy topics that would strengthen and deepen course participants' clinical pharmacy competences and facilitate development of real-life clinical pharmacy practices (which would contribute to compensate for the missing obligatory practice experience course). The Institute of Pharmacy as a part of the Faculty of Medicine would have a great opportunity to involve students in joint projects with clinicians. It is highly recommended to make use of this opportunity.
5. **Patient-care oriented practical skills** are essential core contents of the discipline of clinical pharmacy and these are not clearly outlined in the course objectives. Recommendation: To include in the programme (probably best in the Applied Therapeutics study unit) the description of their achievement at least in theory and maybe also in the elective experiential practice.

6. **Management skills** are almost missing from the current version of the curriculum. However, they are pertinent for clinical pharmacists to perform their tasks in any social and healthcare setting. Therefore, the panel highly recommends their incorporation in the curriculum.

The panel had access to the study programme, study unit descriptions and discussed the details with the programme manager and teaching staff. The panel concludes that the title of the study programme is consistent to the content. As to the content of the programme, specifically the study units towards supporting of the objectives and learning outcomes, it is the opinion of the panel that there is partial conformity on the basis that it should be made clearer that the programme provides skills in developing the systematic approach to clinical pharmacy practice without providing the ability to do so. This requires an update in the General Objectives of the Curriculum, whereby graduates are being provided with the tool to apply knowledge rather to be trained in becoming competent. With regards to the Master thesis, the learning objectives planned to achieve including planning clinical research study through publication of the work is a task that is not commensurate with 30 ECTS load but would normally require higher input by the student. Hence learning objectives for this study unit need to be reviewed and be made more specific as to what can realistically be achieved in this module.

**3.1.1.6. The joint study programme and cooperation agreement thereof meet the requirements set in subsections 11 and 19 of the Higher Education Act.**

*Not applicable for this review.*

### CONCLUSIONS AND ASSESSMENT: STUDY PROGRAMME

The panel was satisfied that the launching of the programme is aligned within an institutional development plan in tandem with expectations from stakeholders and employers. While overall the structure of the programme is in line with European and international Master level studies in clinical pharmacy, the learning outcomes are not completely achieved with the programme content. As a constructive process, the panel would like to urge the programme developers to consider addressing the recommendations hereunder to increase clarity for the learning outcomes from this programme and for the long-term to engage in programme evolution. On this basis, it is considered that there is partial conformity to the criterion of study programme.

#### Strengths

- Employers and stakeholders in hospital, community and regulatory settings are in dialogue with the programme developers and are open to support pharmacists from Estonia to undertake studies including opportunities for research projects to fulfil the Master dissertation obligation within their settings.
- The Applied Therapeutics module is based on weekly interactive remote learning sessions where students are guided through a systematic approach to assessing a patient case and applying pharmacological and therapeutic principles.

#### Areas of concern and recommendations

- The overall learning outcomes are directed towards providing theoretical knowledge of how to do the clinical pharmacy service rather than clinical skills and how this is done in practice. This difference in the competence development as a learning outcome has to be visible in the course prospectus and marketing course materials to ensure academic integrity and align result with expectations of students from the programme. Recommendation: General objectives of the curriculum should be revised to reflect that students who complete the curriculum have developed skills in combining knowledge and adopting a clinical approach rather than receiving training to become competent in clinical practice.
- The current goal set for the thesis to meet scientific quality requirements of an international peer reviewed article may be too ambitious in the context of the time allocated and 30 ECTS awarded considering that the student is involved in research design, data collection and analysis and manuscript submission. Recommendation: To develop clear guidelines of deliverable expected from the thesis which may be in the format of a scientific manuscript that however may not have reached submission stage.

### Opportunities for further improvement

- The modules of the programme are coherent. However, the panel suggests improving the titles of some of the modules to reflect better internationally recognized clinical pharmacy philosophy and practices, e.g., “Clinical pharmacy practice research” rather than “Concepts in research in clinical pharmacy”; “Medicines use and care of older persons and paediatrics” rather than “Care of the elderly and paediatric medicines use”. Also, revising the title of the module ‘Fundamentals of clinical pharmacy practice’ is to ‘Fundamentals of clinical pharmacy’ is suggested, since the module covers overarching philosophy of clinical pharmacy that is not only limited to the practice point of view.
- To consider inclusion of systems thinking applicable to clinical pharmacy services such as medication reviews and develop better the interprofessional education and practice in the therapeutic component.
- To consider inclusion of management skills which are almost missing from the current version of the curriculum. The development of such skills could be built in within the study units dedicated to clinical pharmacy practice since management skills are instrumental for clinical pharmacists to perform their tasks in any social and healthcare setting.
- To consider shifting focus of the topics of the thesis projects from traditional pharmaceutical sciences towards clinical/applied pharmacotherapy topics that would strengthen and deepen course participants’ clinical pharmacy competences and facilitate development of real-life clinical pharmacy practices (also to compensate the missing obligatory practical training). The Institute of Pharmacy as part of the Faculty of Medicine would have a great opportunity to involve students in joint projects with clinicians. It is highly recommended to make use of this opportunity.

### 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

Entry into the programme requires candidates to be registered as a pharmacist and have a Master's degree or equivalent University degree in pharmacy. In the Rationale for Opening the Programme Document and during the interviews, it was clearly outlined by the programme manager and the University of Tartu representatives that the programme is intended to be offered to local as well as international students. This context presents an element of heterogeneity in the applicant's background. It is recommended that robustness in ensuring that applicants have a pharmacy degree that is equivalent to the Degree in Pharmacy offered by the University of Tartu is ensured. During the visit, the Office of the Academic Affairs of the University of Tartu explained how the process is handled and it is essential that the occupational qualification as a pharmacist as an entry level into the programme is maintained.

The panel concludes that the criterion conforms to requirements.

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

**Evidence and analysis**

There is a wide panel of academic staff that will be involved in the programme, and a spreadsheet to describe involvement of individuals and their professional profile was presented. The majority are involved in the didactic part of the programme. During the interviews, the academic staff who participated in the meetings included academics with positions at the Institute of Pharmacy and the Institute of Family Medicine, visiting and adjunct staff. The participants at this meeting demonstrated motivation and enthusiasm. During the programme developers and the academic group meeting, the experience that the developers and the majority of the staff involved in the didactic modules of the programme was stated in that the same group of academics are currently involved in offering the taught components of the e-course presently offered by the Institute of Pharmacy.

It was not clear to the panel, however the extent of awareness by the programme director and the main developers of the demands expected from academic staff who are contributing to the Master dissertation study unit. It is not clear how the team will handle the support of students through the Master thesis.

Moreover, the panel was not convinced that the programme developers and main developers are cognisant of the challenges and risks associated with the large number of academic members of staff in adjunct and visiting positions involved in thesis supervision. It is essential for the programme manager and the Institute to ensure that academic staff are aware of the Master's level requirements within this programme that make learning outcomes to be achieved different to the Diploma currently offered in the e-course. It is important to note that this consideration is especially relevant in the starting position of the programme where there is not much experience as a general output to relate to. This also concerns experience with research methodology and theories applied in clinical pharmacy research.

The panel met a few of the academic group and believes that this criterion is partially met and programme responsables need to strive towards demonstrating practices that are adopted to mitigate risks with adjunct and visiting positions to ensure that academic body and thesis supervisors are aware of the responsibilities to support students to achieve the expected outcomes in the Master thesis and to consider a clear aspect of exposing the interprofessional education and practice objectives which are highly relevant to the programme objectives.

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

**Evidence and analysis**

Quite much of the learning is based on online solo learning. The documents submitted and from the discussions during the interviews, it was confirmed that the learners will be involved in active learning through weekly webinars where cases are discussed. During the visit, it was clarified that individual and independent work is submitted by the students prior to each webinar and this will be used for assessment purposes. It is recommended to find also other study methods that support interactive constructive online learning and learning from each other for example by having students working on a blind case in small remote breakout rooms during the live remote sessions.



A recommendation is to ensure that processes are outlined and clear as to how to follow students who are not participating in the very valuable weekly discussions. Mitigation measures to overcome students who are regularly not active in these sessions should be outlined so as to ensure that programme and standards integrity are maintained. Programme responsables are urged to consider plans of providing student support to those candidates who are failing to meet the requirements example the weekly submissions due to lack of baseline competences. This may be a risk especially with the heterogenous group of international students who may not be practising in a clinical setting whilst reading for the degree. Such support measures may include additional voluntary sessions with dedicated preceptors and mentors.

The panel concludes that the criterion conforms to requirements.

**3.1.2.4. Appropriate methods and means (incl. the use of digital technologies) are planned for the assessment of learning outcomes; assessment is transparent, objective and supports the development of students.**

#### Evidence and analysis

Grading of clinical cases scheme was provided to the panel. Currently the marking scheme with quantitative scores takes into consideration timing of the submission before the beginning of the relevant webinar. The approach may need to be refined so that primarily the competence of the appraisal is assessed. Since during the webinar the ensuing discussion is going to divulge the approach to the clinical case, it is doubtful how fair the assessment process is to accept late submissions at all. Considerations were not clearly presented as to how the total marks accrued from the different submissions will contribute to the final mark.

The panel concludes that the criterion partially conforms to 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

The short descriptions for modules provided information on expectations, deliverables and learning outcomes for the individual study units. The panel was satisfied with the information presented in the documents and during the visit for the didactic study units.

The independent work that is required from the students is expected for:

1) taught study units where the distribution of independent established for a balance of 90 hours/5 ECTS. This is applied in this ratio to study units according to the ECTS value and is considered reasonable as a workload. The content of the independent learning for the taught components is not clear.

The short descriptions of the study units document include in the section brief description of content for specific study units, for example for 'Clinical Pharmacy in practice- Introduction', reference to the requirement of students to "bring out a situation from their daily practice where clinical pharmacy knowledge ....". It is not clear how these expectations for student independent reflections can be

expected and achieved from those students who do not have access to a practice site since enrolment criteria into the programme do not require that students are currently in a practice site where clinical pharmacy is relevant. This is especially relevant to international students, where the independent work expected in terms of content and volume may not be achieved to support the objectives of the specific taught study units in the programme. To overcome this gap, it is suggested that patient care oriented practical skills such as required in medication reviews are considered essential core contents of the discipline of clinical pharmacy and are somehow included in the programme without expecting the students to develop the knowledge and approach to such practices as part of the independent learning. During the interviews it was discussed that such process skills are discussed during the weekly cases and hence elaboration of the development of the learning outcome is recommended in the 'Applied Therapeutics' module. These are issues that differentiate clinical pharmacy from other pharmaceutical sciences, even from pharmacology.

2) The Master thesis. The main concern is with regards to the Master thesis. During the visit, it was discussed that rather than promoting a dissertation manuscript, the programme aims to have students submitting a draft paper for publication. Whilst this vision promotes dissemination of practice research, at the same time it presents challenges especially with regards to how it impacts the student in that the volume of work required for a 30 ECTS study unit may not align with the expectations required to meet a publication submission. This may of course vary depending on the nature of the research design and extent of student involvement in the fieldwork. It is recommended that the expectations of work and assessment criteria adopted are based on a realistic time-plan and clarity as to how assessment of partial submissions for publication and diverse extent of publication statuses are established. A context of having an inequitable load in the dissertation may diverge the students' focus from the other modules leading to a weakening of the clinical pharmacy knowledge and skills development. Too ambitious thesis work may also lead to delays in graduation and even quitting the programme without graduation.

3) The practical training component is presented as an elective and hence it was not appraised as a compulsory component that will contribute to the learning outcomes of the programme.

The panel concludes that the criterion is partially met due to the aspects pointed out for the Master dissertation and the patient care orientation of the curriculum that is essential part of clinical pharmacy as a discipline.

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

### Evidence and analysis

The curriculum of the staff involved demonstrates a mix of clinical specialities as well as a mix between practice-oriented and research-oriented. The programme developers and the some of the teaching staff involved in the taught study units already have experience in the provision of a remote programme for the e-course currently provided for the Diploma level. This is encouraging to see that staff are confident with the digital platform and with facilitating student learning within an autonomous learning environment. The staff has Master or Doctoral degrees. During the visit, it could not be established that measures are in place to ensure that the academic staff involved will have a concrete number of students to supervise so that it will not jeopardise their ability to support the student adequately. At the same time, it was discussed by the academic group and programme

manager that to ensure that students have adequate academic support including expertise in research methodology, each student will have two academics providing professional supervision. This mitigates the concern, and the panel concludes that this criterion conforms in terms of adequate competences of the academic staff.

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

#### Evidence and analysis

The extent of research activities undertaken by the academic group is diverse. The majority have experience of supervising students at Master level. Staff CVs demonstrate the experience of staff to attract funding through the Estonian Research Council, the contribution by staff in European networks, presentation of research work in European clinical forums and the publication in journals. During the visit, it was discussed that students will have a supervisory team consisting of the practice-researcher and the academic-researcher. This strategy overcomes weaknesses in the research portfolio of some of the staff whilst ensuring that research is more directed towards clinical areas. It is recommended that the interprofessional opportunities that the setting presented by the programme manager during the meetings of having interprofessional educators and researchers involved are better transposed in the programme.

The panel concludes that the criterion conforms to requirements.

#### CONCLUSIONS AND ASSESSMENT: LEARNING AND TEACHING

Overall, the panel concludes that requirements for Learning and Teaching are met. This foregoing is based on the consideration that applicants admitted to the programme are expected to have a Master level (Level 7) of studies in pharmacy, there is a core group of academic staff in the Institute who are aware of the objectives of the programme, the delivery of the programme relies on active student learning and there are plans to ensure student supervision in the dissertation that attest to a plan to ensure students receive support to achieve levels expected. The panel puts forward some recommendations to mitigate risks that are foreseen especially with the currently presented non-tenured academic body.

#### Strengths

- Active learning through the weekly case workings that students have to submit prior to each webinar session ensures the development of relevant skills.
- The prior experience of the programme developers in providing some of the study units through the e-course demonstrates the ability of the programme developers and the teaching staff to provide the teaching and learning within the remote platform designed for this programme.

#### Areas of concern and recommendations

- The diversity in the academic group in terms of affiliation with the Institute of Pharmacy and University of Tartu is a concern from a perspective of retention and responsibility towards commitment and from a perspective of the need for higher level of co-ordination by the programme manager to ensure constant alignment of the academic team with the course

objectives, expected learning outcomes and contribution to the student both in the taught components and especially in the dissertation. Recommendation: Programme manager and developers to develop strategies to overcome challenges presented when handling a large academic team that relies on adjunct and visiting positions.

- Research methodology and theories applied in clinical pharmacy research are very different from methodology applied in other pharmaceutical sciences. Recommendation: Ensure that the teaching staff, particularly supervisors of thesis projects will have adequate competences in research methodology.
- To update grading of the clinical case. In the proposal received by the panel, marks are deducted when submissions are received more than 2 hours late or after the respective webinar has started. It is not recommended to accept submissions after webinar has started, since during the webinar the discussion will provide the expected evaluation of the case - hence, accepting work after the start of the session is awarding grades to active learning that was not actually undertaken. Moreover, it is not clear how the individual grades accrued through the weekly webinars contribute to the total aggregate mark at the end of the study unit. The aggregate mark working needs to be clarified including allowances for justified absences (non-submissions) by the students.
- Clear expectations for the submission of the Master dissertation and explicit assessment criteria with regards to final publication or draft manuscript submission.

### Opportunities for further improvement

- Developing structured active learning sessions whereby students participate in handling a 'Blind case' in small break out rooms during the live session.
- Directing research more towards clinical areas. It is recommended that the interprofessional opportunities that the setting presents are better transposed in the programme.

### 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 studies is regulated according to the Study Regulations (linked [here](#)). The information about it is publicly available on the university website (link [here](#)). Therefore, the information about studies is available and accessible.

The organisation of studies allows to cater for the needs of different learners, for example those wishing to join studies having not previously studied in Estonia. As an example of this, is the involvement of international students in the programme. As highlighted in the documentation presented by the study programme application, it has been already mapped how to communicate to the future students of this programme.

The programme allows and encourages for different students to apply to the programme, as it caters for the needs of different learners, for example both those living and able to live in Estonia, and beyond. Furthermore, the university supporting staff is willing to provide support to the programme students in terms of study coordination advice, mental health counselling, and various other assistance if deemed necessary.

Therefore, the panel concludes that the criterion conforms to 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

As highlighted in the documentation presented by the study programme application, the organization of internships in the field of medical sciences is defined in each of the institutes differently within the University of Tartu. The training of internship supervisors is carried out jointly in all fields, and a guide for internship supervisors has been prepared. They also received "Recognized internship system 2021-2025" by The Education and Youth Board of Estonia.

For the programme at hand, practical training is optional for the students to participate. As training is provided only physically in Estonia, it is not required that all international students take it as a subject. The practical training places are provided by the University of Tartu Hospital. During the interviews

conducted during the analysis and as proved in the Annex 6 and Application document, it is evident that the lecturers involved in the programme, are also often involved with the University of Tartu Hospital. The Clinical practice is optional but reasoned well in the application. Therefore, the panel is of the opinion that making it optional does not discredit the general learning outcomes although it makes the curriculum theory-oriented that should be clearly communicated to those applying to the curriculum.

Therefore, the panel concludes that the criterion conforms to 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.**

**Evidence and analysis**

There is a clear procedure in place for recognition of prior studies and relevant work experience that applies for this programme as well as the entire university. This is demonstrated in the university's Study Regulation (linked [here](#)) and in the according regulation (linked [here](#)).

Therefore, the panel concludes that the criterion conforms to requirements.

**3.1.3.4. Students have access to counselling (study and career counselling and preferably psychological counselling); measures for monitoring and supporting academic progress of students have been devised.**

**Evidence and analysis**

As highlighted in the documentation presented by the study programme application, study counselling is available for all students in the programme. That is also how students will be able to make the best use of their studies for their own benefit (choosing subjects, etc). Furthermore, the University of Tartu uses online Study Information System (SIS) which also provides an automated overview of the studies and what has been done already by the student.

According to the documentation provided and interviews conducted, the students have access to study and career but also psychological counselling in person (face-to-face) as well as online.

Thus, the measures for monitoring and supporting academic progress of students have been organised both by automated processes (SIS), but also with the advice of the university personnel.

The panel concludes that the criterion conforms to requirements.

**3.1.3.5. The higher education institution has devised a plan for fostering international (including virtual) mobility among students enrolled in the study programme group.**

**Evidence and analysis**

The University of Tartu provides various opportunities for the students to go abroad (linked [here](#)). In regard to fostering international mobility, the programme creators already have experience with international marketing of the programme within the work done previously for their e-learning course. Furthermore, the Faculty of Medicine at the university also has already many international students

studying there. Therefore, they have laid the basis for international cooperation, but clear structure is yet to be defined for students enrolled in the Master's programme to participate in international exchange.

The plans for any international exchange currently rely on the eagerness of each student to visit lecturers associated with the programme themselves. Therefore, the current approach to foster international mobility among students needs to be wider than on an individual basis. It will be crucial to have a strategy when it comes to fostering international mobility among the students specifically for this programme. That will provide the students with better understanding of when they can go on a (virtual) mobility so that their studies would not be hindered.

As there is no clear institutionalised plan in place specific for the programme to encourage or even strategically allow students to have and utilise an exchange semester, virtual mobility or various other, for example, Erasmus+ scheme opportunities available, the panel concludes that the criterion partially conforms to the requirements, as there are clear opportunities to have the international exchange component to be put to action with the help of the university's support from Internationalisation experts on an individual basis.

**3.1.3.6. The higher education institution implements fair and transparent rules for dealing with complaints.**

**Evidence and analysis**

As highlighted in the documentation presented by the study programme application, there is also a description of the rules for dealing with complaints (VII.10. Contesting decisions concerning the organization of studies). They are publicly available for everyone, therefore transparency is ensured for the processes.

Therefore, the panel concludes that the criterion conforms.

**3.1.3.7. Plans are in place for regular internal assessment of study programmes by the higher education institution, including the analysis and taking into account of feedback from various stakeholders (students, alumni, employers, academic staff).**

**Evidence and analysis**

As highlighted in the documentation presented by the study programme application, the programme aims to entail internal assessment elements comprising of statistics but also opinions of the students. Therefore, the students' feedback will be instrumental within the quality assessment of the programme.

The UT has principles/regulations in place for quality assurance of study programmes. The Application mentions: "The opening and development of curricula takes place in accordance with the Statutes of Curriculum, which establishes the requirements for the structure, content and quality of higher education curricula and the procedure for opening, administering and closing curricula. The curriculum statute also defines the programme-based management of curricula, the role of the programme manager as the curriculum manager and the tasks in the internal evaluation of curricula." The Statutes of curricula (Part III) describe a university-wide process for internal and external quality assurance mechanisms, including collecting feedback from various stakeholders.

As stated in the self-evaluation report, the academic staff, alumni and the employers will be also involved in providing feedback about the programme. However, it is not clear how exactly they will be involved. Therefore, it will be important moving forward for the programme developers to create a solution for how they will be involved. One of the possibilities for a structural strategic involvement of all parties (students, staff, employers, alumni) would be to create an advisory council, which would meet at least once a year and discuss the relevant topics for the advancement of the programme. This would make sure the programme stays relevant for the students, for the market needs and for the university as a whole.

As there are concrete plans for internal assessment involving students and academic staff, but less clarity on the specific involvement of the alumni and employers, the panel finds the criterion to partially conform to the requirements.

### CONCLUSIONS AND ASSESSMENT: ORGANISATION OF STUDIES

As a conclusion, the organisation of studies conforms to the requirements. The students have the necessary support present via study or mental health related counselling. The university has in place recognition procedure for prior learning and academic recognition. The UT has principles/regulations in place for quality assurance of study programmes; however, the involvement of different stakeholders (alumni, employers) for this Master's programme is currently unclear.

#### Strengths

- Students have wide access to counselling (study and career counselling and preferably psychological counselling, also in English language) and the measures for monitoring and supporting academic progress of students have been devised.

#### Areas of concern and recommendations

- There is no clear plan for international mobility in place for those attending the programme. The prerequisites for fostering international mobility, are there, however, they should be further strategically utilised. It should be thought through, what are the opportunities for students to have (virtual) mobility within the scope of this programme.
- The university has regulations in place for quality assurance of study programmes and concrete plans for internal assessment involving students and academic staff in the study programme development. However, there is less clarity on the specific involvement of the alumni and employers in the development of the programme once it is running. The panel finds it to be worth to consider creating an advisory council for the programme, which would entail the representatives of students, staff members, alumni of the programme and employers. This will allow the programme to stay relevant and be in sync with the market needs.

### CONCLUSIONS AND AGGREGATED ASSESSMENT: QUALITY OF INSTRUCTION

The panel reflected on the individual component assessment for Study Programme, Learning and Teaching, and Organisation of Studies.



On the basis of the documentation presented including the study programme, programme rationale, reviews and the discussion during the interviews, the panel is of the opinion that in general the criterion of Quality of Instruction is in conformity with the overarching criteria.

Some of the criteria within the domain were identified to be in partial conformity. The criteria of partial non-conformity pointed towards:

- 1) The content of the programme, specifically the study units towards supporting of the objectives and learning outcomes, where it was highlighted that the programme outcomes achieved from the suggested content contribute to providing knowledge of how to provide clinical pharmacy rather than how to do it.
- 2) The academic team diversity in terms of affiliation with the Institute presents challenges to ensure alignment with the objectives and expected outcomes especially when it comes to the Master thesis submission.
- 3) Expectations from the student as to the Master thesis submission need to be clarified. It is recommended that the expectations of work and assessment criteria adopted are based on a realistic time-plan and clarity as to how assessment of partial submissions for publication and diverse extent of publication statuses established.
- 4) Mobility opportunities for the students are in the vision of the programme developers but no elaborated plans are actually in place. Establishment of agreements through Erasmus programmes and other collaborations are encouraged so as to provide a standard framework for mobilities.
- 5) The internal assessment procedures to receive feedback from students and academic staff are outlined but there is less clarity on organised involvement of alumni and employers.

It is recommended that the programme responsables and the Institute of Pharmacy reflect on these areas so as to mitigate associated risks and to provide increased robustness to the quality of the instruction. Hence the panel would like to encourage the consideration of the recommendations and opportunities listed hereunder.

### Strengths

- Employers and stakeholders in hospital, community and regulatory settings are in dialogue with the programme developers and are open to support pharmacists from Estonia to undertake studies including opportunities for research projects to fulfil the Master dissertation obligation within their settings.
- Active learning through the weekly case workings that students have to submit prior to each webinar session ensures the development of relevant skills.
- Students have wide access to counselling (study and career counselling and preferably psychological counselling, also in English language) and the measures for monitoring and supporting academic progress of students have been devised.

### Areas of concern and recommendations

- The overall learning outcomes are directed towards providing theoretical knowledge of how to do the clinical pharmacy service rather than clinical skills and how this is done in practice. This difference in the competence development as a learning outcome has to be visible in the course prospectus and marketing course materials to ensure academic integrity and align result with expectations of students from the programme. Recommendation: General objectives of the curriculum should be revised to reflect that students who complete the curriculum have developed skills in combining knowledge and adopting a clinical approach rather than receiving training to become competent in clinical practice.

- The current goal set for the thesis to meet scientific quality requirements of an international peer reviewed article may be too ambitious in the context of the time allocated and 30 ECTS awarded considering that the student is involved in research design, data collection and analysis and manuscript submission. Recommendation: To develop clear guidelines of deliverable expected from the thesis which may be in the format of a scientific manuscript that however may not have reached submission stage.
- The diversity in the academic group in terms of affiliation with the Institute Pharmacy and University of Tartu is a concern from a perspective of retention and responsibility towards commitment and from a perspective of the need for higher level of co-ordination by the programme manager to ensure constant alignment of the academic team with the course objectives, expected learning outcomes and contribution to the student both in the taught components and especially in the dissertation. Recommendation: Programme manager and developers to develop strategies to overcome challenges presented when handling a large academic team that relies on adjunct and visiting positions.
- Research methodology and theories applied in clinical pharmacy research are very different from methodology applied in other pharmaceutical sciences. Recommendation: It is important to ensure that the teaching staff, particularly supervisors of thesis projects will have adequate competences in research methodology.
- There is no clear plan for international mobility in place for those attending the programme. The prerequisites for fostering international mobility, are there, however, they should be further strategically utilised. It should be thought through, what are the opportunities for students to have (virtual) mobility within the scope of this programme.
- Clear expectations for the submission of the Master dissertation and explicit assessment criteria with regards to final publication or draft manuscript submission.
- The university has regulations in place for quality assurance of study programmes and concrete plans for internal assessment involving students and academic staff in the study programme development. However, there is less clarity on the specific involvement of the alumni and employers in the development of the programme once it is running. The panel finds it to be worth to consider creating an advisory council for the programme, which would entail the representatives of students, staff members, alumni of the programme and employers. This will allow the programme to stay relevant and be in sync with the market needs.

### Opportunities for further improvement

- The modules of the programme are coherent. However, the panel suggests improving the titles of some of the modules to reflect better internationally recognized clinical pharmacy philosophy and practices, e.g., “Clinical pharmacy practice research” rather than “Concepts in research in clinical pharmacy”; “Medicines use and care of older persons and paediatrics” rather than “Care of the elderly and paediatric medicines use”. Also, revising the title of the module ‘Fundamentals of clinical pharmacy practice’ is to ‘Fundamentals of clinical pharmacy’ is suggested, since the module covers overarching philosophy of clinical pharmacy that is not only limited to the practice point of view.
- To consider inclusion of systems thinking applicable to clinical pharmacy services such as medication reviews and develop better the interprofessional education and practice in the therapeutic component.

- To consider inclusion of management skills which are almost missing from the current version of the curriculum. However, they are instrumental for clinical pharmacists to perform their tasks in any social and healthcare setting.
- Directing research more towards clinical areas. Within this context, it is recommended that the interprofessional opportunities that the setting in the Faculty, are better transposed in the programme.
- Developing structured active learning sessions whereby students participate in handling a 'Blind case' in small break out rooms during the live session.
- To consider shifting focus of the topics of the thesis projects from traditional pharmaceutical sciences towards clinical/applied pharmacotherapy topics that would strengthen and deepen course participants' clinical pharmacy competences and facilitate development of real-life clinical pharmacy practices (also to compensate the missing obligatory practical training). The Institute of Pharmacy as part of the Faculty of Medicine would have a great opportunity to involve students in joint projects with clinicians. It is highly recommended to make use of this opportunity.

## 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

The University of Tartu has general regulations on academic staff, which clearly stipulate that the relevant processes are established based on the Higher Education Standard and additional regulations set forth by the Institution. The procedures for staff selection and recruitment are stipulated to ensure transparency. The University of Tartu has established comprehensive regulations governing academic staff, which explicitly outline the associated processes. There is substantial evidence to support the claim that academic positions are filled in accordance with the prescribed procedures. Vacancies with open-ended contracts undergo a public competition, and higher positions are filled through international competitions if fluency in Estonian is not a requirement. Information about job openings is made available on the university's website in both Estonian and English. Elections for incumbents occur at various decision-making levels.

In the case of positions like professor, leading researcher, associate professor, and senior researcher, candidates are evaluated by expert committees also comprising non-university members, including experts from outside Estonia. A notable observation, however, is the absence of well-defined requirements and descriptors for academic staff related to the programme.

The panel concludes that the criterion conforms to requirements.

**3.2.1.2. The qualifications of prospective 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

Based on a comprehensive analysis of the documents and the interviews during site visit, including meetings with the academic staff, it can be concluded that the University of Tartu has the necessary academic resources to support the programme in clinical pharmacy. Furthermore, after conducting an analysis of the CVs of the prospective academic staff members and meeting with them, it can be stated that the qualifications of these individuals meet the requirements of the programme, taking into account the specificities of Master's studies.

A concern is the required competences of teaching staff, both at the UT and beyond in clinical pharmacy research methodology to reach the ambitious scientific level of thesis work that is set for the programme. A weakness lies in the absence of specific details or examples that would help to assess how the faculty's strong qualifications translate into effective teaching and supervision. Without clear evidence or information, it may be challenging to assess the actual impact of this strength on the quality of education and the students' academic and professional growth.

The panel concludes that the criterion conforms to requirements.

**3.2.1.3. The number of academic staff to be involved 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

The panel has considered evidence provided by the University of Tartu in order to do a comprehensive assessment of the sufficiency of academic staff resources for the successful implementation of study programme. According to the provided information, the Faculty of Medicine has a total of 620 staff members, including 280 teaching staff (including 49 professors), 140 research staff, and 200 non-academic staff members. This assessment indicates a reasonably sized academic staff pool. It should be mentioned that there is cooperation with Tartu University Hospital, which is a significant advantage. This collaboration is a strength that might enrich the academic staff's experience and expertise. Moreover, this collaboration might also ensure that in case of needed expertise and guidance, academic staff is easily available.

For the clinical pharmacy programme, the university has succeeded in proving that there are 26 academic employees who are experts in their field and might utilize modern teaching methods in their teaching. This is a positive indication of the faculty's capability to deliver high-quality education. The number of academic staff involved in the study programme group is considered sufficient to achieve programme objectives and learning outcomes. At the same time, it is worth considering that a large number of the academic staff involved in the programme hold a visiting part-time position or a casual position with the University of Tartu. So, while there is a large number of academic staff included in the team, there is an element of risk since the contribution provided from the individuals may be jeopardised due to the extent of their contract or relationship with the University.

The faculty's collaboration in research and development, both within the university and with external institutions and companies, demonstrates a commitment to academic excellence and innovation. The University of Tartu has also clear plans and commitment for hiring from different countries, including

Latvia, Finland, UK, Malta, Iceland, Netherlands. The addition of visiting professors from different countries will strengthen the scientific core of the curriculum and this is a proactive step to enhance the academic staff's capabilities. The university guarantees also sufficient academic and material resources for opening and implementing study programmes. This includes projected financial resources for hiring academic staff during the initial phase, which leverages the corresponding risk.

However, University of Tartu should do a comprehensive risk analysis to determine the estimation of intake of students expected in the first year and then for each consecutive year. This is indeed crucial for resource allocation including the staffing of academics, such as thesis supervision and teaching. It is recommended that the university conducts a detailed analysis to forecast student intake and plan staffing accordingly. This lack of risk analysis brings forward the issue of sustainability, especially in the context of fluctuating student numbers. It is vital for the University of Tartu to develop a comprehensive sustainability plan of academic staff with the projected workload. This plan should outline strategies for the staffing and retaining academic staff regardless of variations in student intake. It should also address financial considerations in the event of fewer or more students than anticipated.

As clinical pharmacy as a discipline is patient-care oriented and is based on collaborative practices that involve patients and their care teams in medication use management, it was contradictory to hear from the programme developers that they are not very willing to involve more physicians as instructors. This is something the panel recommends the programme developers may reconsider to make this a programme better reflecting international definitions of clinical pharmacy as a discipline.

The panel concludes that the criterion conforms to requirements.

**3.2.1.4. Prospective 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

Regarding the information provided by the University of Tartu about the number of publications, it is noteworthy that the workers of the Medical Faculty produced a substantial volume of research output in 2020, with 397 publications, and a significant portion (62) coming from the Institute of Pharmacy.

Prospective academic staff members at programme level demonstrate a commitment to professional development and staying attuned to industry-driven practices. There is sufficient evidence to indicate their involvement in delivering presentations and workshops at various initiatives, including research endeavours and industry-driven activities. This involvement suggests their willingness to share knowledge and engage with the academic community and industry practitioners. To further continue strengthening their contributions to the field, it would be beneficial for the academic staff members to have opportunities and seek establishing collaborations for research through continuing research abroad or engaging in research mobilities. These activities can enhance their expertise and contribute to the overall quality and relevance of the clinical pharmacy programme. Encouraging and supporting such endeavours should be a priority for the HEI to ensure that the academic staff remains current and well-prepared to educate students effectively. Cooperation with the University hospital and other health care organisations is also fundamental to keep updated with current clinical practice which is the foundation of the programme.

The panel concludes that the criterion conforms to requirements.

**3.2.1.5. The higher education institution has plans for creating opportunities for continuing education and personal development (including for topping up digital skills) for academic staff members involved in the study programme group, including for benefitting from international mobility opportunities.**

#### Evidence and analysis

It is recommended that a more detailed analysis of research outputs, including research methodology expertise/experience related to the clinical pharmacy programme be conducted as part of the accreditation process. This will provide a clearer understanding of the programme's research productivity and its alignment with academic and industry-driven practices and scientific quality standards in the field.

The panel concludes that the criterion partially conforms to requirements.

### CONCLUSIONS AND ASSESSMENT: ACADEMIC STAFF

The panel has conducted a comprehensive evaluation of the University of Tartu's programme on clinical pharmacy, taking into account various aspects related to the programme's academic staff recruitment, academic processes, and overall quality assurance. The panel acknowledges and appreciates the University of Tartu's efforts in elaborating policies and procedures for teaching recruitment. These policies, particularly the inclusion of competitive selection processes for staff positions, demonstrate institutional commitments to recruiting qualified academic staff who is competitive. The presence of a majority of permanent academic staff members is seen as a strength at an institutional level, ensuring stability in the academic process. The panel reflected that the academic staff presented has post-graduate studies in the area of focus of the programme (clinical pharmacy) or experience in the research aspects and cover the spread of areas in adequately. The adequacy from a number perspective could not be determined very much at this stage particularly for the research capacity to support students in their dissertation. The panel finds this criterion as met.

#### Strengths

- The combination of academically focused staff with teacher-practitioners creates a valuable duality that enhances the likelihood of achieving desired outcomes. This approach brings together the expertise of staff members who are deeply knowledgeable in their academic fields with those who have advanced practical experience in teaching. This synergy can provide a well-rounded educational experience for students.
- The integration of international lecturers and consultants from outside the university in the implementation of the programme is a strength. This international perspective can bring diverse insights, experiences, and global best practices into the programme, enriching the learning environment and broadening students' educational experience. These guest lectures can provide students with real-world insights and practical knowledge, enhancing the relevance and applicability of the curriculum.

#### Areas of concern and recommendations

- The University of Tartu has not presented clearly formulated and measurable plans for creating opportunities for continuing education and personal development for academic staff

members within the study programme group. This includes provisions for benefiting from international mobility opportunities and different research endeavours. The university should have clearly formulated and measurable plans for creating opportunities for continuing education and personal development for academic staff members within the study programme group, including plans for international mobility opportunities and different research endeavours.

### Opportunities for further improvement

- Developing specific requirements for supervisors to supervise research projects and opportunities to integrate students into project-based research is an important consideration.
- As a point for further elaboration it is suggested that a clear plan should be devised to balance a large number of part-time than full-time staff on this programme. The plan should be carefully managed to maintain a balanced teaching environment.
- Develop a comprehensive sustainability plan of academic staff with the projected workload. This plan should outline strategies for the staffing and retaining academic staff regardless of variations in student intake. It should also address financial considerations in the event of fewer or more students than anticipated.

## 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; or alternatively concrete financing decisions/projects exist in order to meet the extended needs.**

### Evidence and analysis

According to the documents and discussions with the University of Tartu representatives, the programme will have up-to-date equipment available that is needed for achieving the learning objectives of the study programme. As the programme will be delivered online, the most important of the teaching facilities will be an e-learning environment. The University of Tartu uses Moodle e-learning environment for online learning which is internationally widely used and recognized as a template facilitating meaningful online learning and application of various teaching and assessment methods. For online case study webinars/seminars, lectures, workshops, and meetings with supervisors, Zoom/Teams virtual meeting applications are available. Sufficient support for students and teachers is also available for facilitating e-learning and organizing online studies.

The documentation received by the panel did not include information about the facilities needed and available for study-related research (master thesis). This includes the lack of framework to establish student contact with supervisory team and key performance indicators that are going to be applied to monitor progress of the student and that the student and the supervisory group are regularly in discussion to ensure standards expected are reached. Another area that requires insight is the availability, collection and secured storage of research data that can include retrospective or prospective patient data from registers or patient records.



Both plans underscore sustainability and inclusivity, emphasizing green practices, mental well-being, and accommodation for individuals with special needs. This reflects a commitment to creating a positive and inclusive learning and working environment.

The panel concludes that the criterion conforms to requirements.

**3.2.2.2. The making available of up-to-date textbooks; research publications and other study materials as well as providing access to research databases necessary for conducting studies, research, development and creative activities in the study programme group is ensured.**

### Evidence and analysis

According to evidence received, core study materials and resources seem to be available online which is an important prerequisite for organizing a new online curriculum in a new academic field at the university. The evidence did not provide a clear understanding of the core study materials and readings that will be used during the training. It is essential at a Master level to instigate in the students the competence of building knowledge and applying systematic analysis of knowledge based on robust evidence. Hence all study units should be backed up with recommended readings. Will the readings mainly consist of textbooks, and will they be available online via the Library of the University in English language to cover the learning needs of international students?

The curriculum documentation did not mention about the role of current care guidelines/therapeutic guidelines as a study material. They are recommended to be emphasized as core reference readings of the curriculum that lay foundation for understanding aetiology and care principles of various diseases and conditions, including pharmacotherapies. As the programme is international, it is recommended to use also some internationally recognized care guidelines, such as by the ones developed by NICE, Cochrane Database and European Speciality Associations in addition to Estonian ones.

In addition to the online availability of up-to-date textbooks and current care guidelines, also in English language versions, access to health portals and electronic databases assisting in medication risk management and drug information sources have become increasingly important for learning purposes and for performing clinical pharmacy practice in various care settings. Therefore, the availability of these resources is important to ensure in this clinical pharmacy curriculum under evaluation.

Another important set of study resources for this new clinical pharmacy programme are resources needed in conducting research/master thesis (e.g., e-journals to access peer-reviewed research publications, remote access to research databases for literature searches). If the goal is to publish master thesis research in international peer-reviewed journals, a decision need to be made who will pay the open access fees if the open access journals will be used as a publication forum (is there a university level policy for open access publishing?).

For data analysis, statistical analysis software or qualitative analysis software are needed, as well as easy-to-use tutorials for their use that are electronically available (e.g., videoclips that can be linked to the Moodle area of the Master thesis).

All these reflections above are to be considered by the programme manager as the programme is being launched. In the interim at this initial concept of review of the programme, the panel concludes that the criterion conforms to 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, have been envisioned in order to support learning and teaching. Digital learning and teaching as well as IT support is available to students and teaching staff.**

#### Evidence and analysis

Information and communication technological solutions, including study information system, document management system, online learning environment have been envisioned in order to support online learning and teaching. The Institute of Pharmacy and teachers have experience and support in using them.

Digital learning and teaching as well as IT support is available to students and teaching staff.

The panel concludes that the criterion conforms to requirements.

### CONCLUSIONS AND ASSESSMENT: LEARNING AND TEACHING ENVIRONMENT

The panel considered the interviews with the programme manager, the academic staff and the administrative group in addition to the documentation provided and can conclude that the Learning and Teaching Environment conforms to requirements. There are areas that were not very much elaborated in detail during the documentation especially with regards to access to research journals, databases relevant to the area of study and the inclusion of reference sources in the taught components of the programme.

#### Strengths

- The University of Tartu adopts a virtual learning environment based on Moodle that is a robust system.
- There are academic staff involved in the programme who already have experience with the virtual platform and with providing teaching through this modality.

#### Areas of concern and recommendations

- The lack of clarity into the access to reference sources that incorporate current care /therapeutic guidelines and therapeutic updates. Recommendation: To include in the taught study units recommendations for national, European and international resources that students can access online considering that not all students are based in Estonia.
- It is not clear the extent of access to drug information databases and to ensure the provision of access to all students including the international students to current and updated sources which are required to support knowledge development in clinical pharmacy.
- Lack of framework to establish required student contact with supervisory team and key performance indicators that are going to be applied to monitor progress of the student and ensure that the student and the supervisory group are regularly in discussion so as to meet standards expected. A description of the master thesis project and how it will be carried out in an online learning environment is recommended to be established for the use of teacher/supervisor network and students (including also description of the resources available in conducting research/master thesis, such as e-journals and databases to access and search peer-reviewed research literature).

### Opportunities for further improvement

- As clinical pharmacy research often includes patient data, national guidance for research ethics and confidential data management and storage are important to include in research methods training.

### 3.2.3 Financial resources

**3.2.3.1. The educational institution has adequate funds necessary for conducting high quality studies in the study programme group as well as for the provision of adequate and up-to-date support services and supporting the development of academic staff.**

#### Evidence and analysis

As highlighted in the documentation presented by the study programme application, University of Tartu has sufficient funds necessary for conducting high quality studies in the study programme, as well as for the provision of adequate and up-to-date support services and supporting the development of academic staff.

The University of Tartu relies on three primary funding sources: (i) activity support from the state budget, (ii) revenue for the training of residents from the state budget, and (iii) revenue from research, including baseline funding, institutional and personal research grants, targeted funding, and international agreements. The diversity of funding sources is a significant advantage. It reduces the University's vulnerability to financial risks associated with heavy reliance on a single source. This diversification might provide financial sustainability and flexibility. The document Key performance indicators for the strategic plan A2025 is also worth mentioning as key advantage, however associated risks have not been factored in.

The commitment by the University of Tartu to provide 6 million euros for the initial 2 years to support new programmes and that this programme will be considered within this group, is a positive indicator of the University's financial commitment for programme initial and successful launch. The programme developers have an agreement with the university regarding initial funding for the first two years. This initial funding can help mitigate financial risks, particularly during the programme's early stages when student intake might be uncertain. It provides a safety net to ensure programme continuity and quality for the first years. It is worth mentioning that the University has not conducted and even acknowledged the potential financial risks associated with student intake variability. This indicates an urgent need for a proactive approach to addressing potential challenges and ensuring programme sustainability.

In relation to the funding, it was also highlighted that the university is also actively looking for external funding via various research projects, which also provides opportunities to not only the academics, but also to the students to benefit. This is demonstrated not only by the recent developments of the university in the Maarjamõisa campus and beyond, also including the opportunity to use the University of Tartu Hospital facilities for teaching.

To ensure the success of the study programme's successful implementation, the University has demonstrated the availability of current funds, such as student fees and support funds, which can complement the proposed fundraising strategy. However, it is equally important to address the

potential financial risks, including a lack of clear evidence regarding the conducted cost-effectiveness of the funding model. The issue about the university's ability to sustain the programme in case of lower student intake than planned and the financial mitigation plans in such scenarios should also be thoroughly conducted by the University to ensure the programme's long-term success and mid-term and long-term sustainability.

The panel concludes that the criterion conforms to requirements.

**3.2.3.2. The higher education institution has a strategy for raising funds needed for the advancement of the study programme group related research and development.**

**Evidence and analysis**

As highlighted in the documentation presented by the study programme application, University of Tartu has a strategy for raising funds needed for the advancement of the study programme.

The provided documents and information demonstrate that the University of Tartu has a well-defined and comprehensive strategy for raising funds to support research and development, both at the University level and at the level of Faculty of Medicine. It should be mentioned that University of Tartu's strategic Plan 2021-2025 and Strategic Plan of the Faculty of Medicine 2022–2026 include a variety of planning stipulations and course of actions for diversifying funding sources. The Panel considers this planning of diversity as advantageous, reducing reliance on a single source and enhancing financial stability. The University plans on further enhancing strong industry collaboration. The emphasis on collaboration with businesses, open innovation, and knowledge transfer highlights the university's proactive role as a development partner and consultant for the industry. This approach might foster practical applications of research and supports economic development of the country, but also the University's possible financial sustainability. Another point worth mentioning is the strategic plans to prioritize entrepreneurship education, pre-incubation programmes, and support for business creation. This might encourage students and researchers to engage in entrepreneurial activities, potentially leading to the establishment of new businesses. Both plans underscore partnership for research funding. There is clearly defined intention to participate in consortia supported by programmes like Horizon Europe which demonstrates a proactive approach to securing external research funding and engaging in collaborative research projects. The student fees paid in specifically by the group of students reading for this degree should also contribute in part to sustain expenses required for the research programmes within this specific programme such as expenses required for journal access and open access publication.

Therefore, the panel concludes that the criterion conforms to requirements.

**3.2.3.3. 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 financial reports of the University of Tartu are publicly available on their website (link [here](#)). The annual reports undergo financial auditing, which is also available public available.

Therefore, the panel concludes that the criterion conforms to requirements.

## CONCLUSIONS AND ASSESSMENT: FINANCIAL RESOURCES

The University of Tartu's and the Faculty of Medicine's strategic plans and University of Tartu Financial Strategy until 2025 illustrate the availability of the anticipated funds and also demonstrate a strong commitment to raising funds for research and development related to the programme and financial sustainability. The emphasis on diversifying funding sources, promoting collaboration with businesses, and aligning the university's, faculty's and market's needs and projections will surely advance research and innovation, which in their turn increase the potential funding from diverse sources.

As all of the criteria in the Financial Resources section conform, the panel concludes that the criterion conforms to requirements.

### Strengths

Based on the analysis of the University of Tartu's and the Faculty of Medicine's strategic plans and funding strategies, University of Tartu Financial Strategy until 2025 there are two areas of strength related to financial sustainability and planning:

- One of the strengths is the university's ability to tap into diverse funding sources. By relying on a combination of European, state, and institutional budget support, research grants, cooperation with businesses, international agreements, and even external commitments by the University of Tartu like the 6 million euros dedicated to new programmes for the initial 2 years, the Faculty of Medicine will reduce its dependence on a single funding stream. This diversification enhances financial stability and resilience of the programme, making it better equipped to adapt to changing circumstances and mitigate potential financial risks.
- The university's plans on collaboration with businesses, open innovation, and entrepreneurship programmes are significant strengths. By actively engaging with the industry and fostering an entrepreneurial spirit among students and researchers, the university not only supports its financial sustainability but also promotes research commercialization and economic development. This approach creates opportunities for revenue generation through research partnerships, knowledge transfer, and the potential establishment of new businesses, contributing to long-term financial sustainability.

### Areas of concern and recommendations

- Based on the provided documents and information, the risk mitigation for the dependency on external funding sources and clear projections for different scenarios for the financing of the programme is not clear. For example, changes in governmental priorities, alterations in grant availability including HORIZON or other, or shifts in the economic landscape can pose risks to the stability of these funding sources. Therefore, the University should carefully monitor and make detailed financial risk analysis.

### Opportunities for further improvement

- Associated risks for the programme have not been factored in within the strategic plan development and therefore urgent attention to identify risks is required.
- Develop and incorporate financial risk analysis and cost-benefit analysis into all marketing plan, course of actions and projections. It is recommended that by conducting a

comprehensive cost-benefit analysis where not only the initial financial feasibility is evaluated but also take into consideration various scenarios, including lower than anticipated student intake, potential risks and rewards are identified. This will provide information for the University to make informed decisions about the programme's sustainability and identify areas where financial mitigation plans may be required.

- By fostering entrepreneurship among students and faculty the programme can contribute to encourage pre-incubation projects and support for entrepreneurial activities that can in turn be applied to support programme evolution.

### CONCLUSIONS AND AGGREGATED ASSESSMENT: RESOURCES

An aggregated assessment of key strengths such as the University's ability to tap into diverse funding sources and the university's plans on collaboration with businesses, open innovation, and entrepreneurship programmes, as well as resources for the study programmes within the Faculty of Medicine indicates a robust and well-connected infrastructure and resources. The faculty's curricula-related infrastructure is closely linked with Tartu University Hospital and is spread across various locations in Tartu, including the Maarjamõisa medical campus and the city centre. Overall, the University states that the infrastructure is in good condition and continually evolving. The faculty also maintains modern science labs, working rooms for teaching staff, offices, and auxiliary rooms. This infrastructure assessment by the Panel underscores the readiness of resources to support the current study programme given the efficiency of overall management at different levels, including institutional, faculty and other.

#### Strengths

- The combination of academically focused staff with teacher-practitioners creates a valuable duality that enhances the likelihood of achieving desired outcomes. This approach brings together the expertise of staff members who are deeply knowledgeable in their academic fields with those who have advanced practical experience in teaching. This synergy can provide a well-rounded educational experience for students.
- The integration of international lecturers and consultants from outside the university in the implementation of the programme is a strength. This international perspective can bring diverse insights, experiences, and global best practices into the programme, enriching the learning environment and broadening students' educational experience. These guest lectures can provide students with real-world insights and practical knowledge, enhancing the relevance and applicability of the curriculum.
- The university's plans on collaboration with businesses, open innovation, and entrepreneurship programmes are significant strengths. By actively engaging with the industry and fostering an entrepreneurial spirit among students and researchers, the university not only supports its financial sustainability but also promotes research commercialization and economic development. This approach creates opportunities for revenue generation through research partnerships, knowledge transfer, and the potential establishment of new businesses, contributing to long-term financial sustainability.

#### Areas of concern and recommendations

- The University of Tartu has not presented clearly formulated and measurable plans for creating opportunities for continuing education and personal development for academic staff

members within the study programme group. This includes provisions for benefiting from international mobility opportunities and different research endeavours. The university should have clearly formulated and measurable plans for creating opportunities for continuing education and personal development for academic staff members within the study programme group, including plans for international mobility opportunities and different research endeavours.

- Access to drug information sources and to journals in the clinical pharmacy area needs to be ensured for all students including the international students.
- Based on the provided documents and information, the risk mitigation for the dependency on external funding sources and clear projections for different scenarios for the financing of the programme is not clear. For example, changes in governmental priorities, alterations in grant availability including HORIZON or other, or shifts in the economic landscape can pose risks to the stability of these funding sources. Therefore, the University should carefully monitor and make detailed financial risk analysis.

#### Opportunities for further improvement

- Develop a comprehensive sustainability plan of academic staff with the projected workload. This plan should outline strategies for the staffing and retaining academic staff regardless of variations in student intake. It should also address financial considerations in the event of fewer or more students than anticipated.

### 3.3 SUSTAINABILITY

**Aggregated assessment on the quality of instruction: *conforms to requirements***

**Aggregated assessment on resources: *conforms to requirements***

#### 3.3.1 Further sustainability criteria

**3.3.1.1. The higher education institution has a development plan along with an action plan 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 under assessment. In the case of a brand new higher education institution, a development plan and draft action plan exist.**

##### Evidence and analysis

As presented to the panel with the study programme application, the University of Tartu has a development plan, together with an action plan, ensuring the sustainability of high-quality studies as a whole as well as within the scope of the programme. The programme fits well into the strategy of the university and contributes to achieving the goals.

The university and the Faculty of Medicine have well-defined strategies and a corresponding development plan and financial projections in place to ensure the successful launch of the programme and long-term sustainability of the programme. This programme aligns seamlessly with the

university's overarching strategy and actively contributes to the achievement of its strategic objectives. These documents are publicly accessible on the University of Tartu's official website.

Therefore, the panel concludes that the criterion conforms to requirements.

**3.3.1.2. When planning studies in the study programme group, the higher education institution has conducted a risk analysis and devised a long-term financial projection, which among other things includes the calculation of a student place, an analysis of risks stemming from the operating environment and planned mitigating measures thereof.**

#### Evidence and analysis

According to the programme manager and developers, a risk mapping was conducted to identify the strengths and shortcomings of the programme in the document "Self-assessment of the curriculum of Clinical Pharmacy MSc" (Annex 5 of the application). It is expected that the fees paid by the students will in turn contribute towards offsetting the costs in the programme. However, according to the opinion of the panel, it was missing the risks and mitigation measures as well as a long-term financial projection (the programme has a two-year plan). Therefore, the risk analysis is only partially completed for the programme.

For example, the panel advises for the programme team to take into consideration the following risks and ways how to mitigate them: 1) risks associated with part time teaching staff – how to maintain their level of expertise in teaching and scientific work, their continuous involvement in the programme, their involvement in the programme, 2) international mobility – there are clear opportunities for international mobility, but as of now, they are not properly mapped to be well executed, 3) intake of students – how many students is the maximum, how many a minimum for the programme to function properly, for the students to get the best quality studies envisioned, 4) programme's relevance to the market needs – to ensure the relevance of the programme, it must be continuously monitored; one of the ways to do so, is to have regular meetings with various stakeholders, for example, in the form of an advisory council. Therefore, the panel is of the opinion that there are various risks associated with opening of the programme and they ought to be mapped and addressed in more detail.

The additional document submitted to the panel regarding a general marketing plan 2023-2024 for all the university's programmes, which outlines activities and timing for the 2024 admissions, lacks financial calculations and cost-efficiency analysis. While the plan includes activities such as visits to Kazakhstan, Azerbaijan, Georgia, participation in Study in Europe Fairs in Brazil and Argentina, a Study in Europe Virtual Fair in India, among others, there is no clear evidence of financial planning or an indication of cost-efficiency assessments for these initiatives. Given the potential financial investments from the University of Tartu required for international recruitment activities, it is crucial for the university to incorporate financial risk analysis and cost-benefit analysis into its marketing plan. This would help ensure that resources are allocated efficiently, and the University of Tartu can evaluate whether these initiatives yield the expected results while maintaining financial sustainability. Such financial planning is essential to make informed decisions and optimize the use of resources for international student recruitment efforts.

Therefore, the panel concludes that the criterion partially conforms to requirements.



**3.3.1.3. The age structure of academic staff to be involved as well as share of young teachers ensures sustainability of instruction provision in the study programme group.**

#### Evidence and analysis

The programme will incorporate a diverse range of individuals across various age groups into its instructional provision, a strategic approach aimed at enhancing the long-term sustainability and effective launch of the programme. An analysis of CVs, commitment letters and interviews have proved that there will be diverse age composition of the academic staff participating in the programme's instruction provision. This approach not only assures the sustainability of the study programme but also comprehensively addresses the issue of age structure. The accompanying documentation within the study programme application underscores the deliberate identification of different age groups within the academic community, further emphasizing the programme's unwavering commitment to fostering a well-rounded and sustainable educational environment.

The panel concludes that the criterion conforms to requirements.

**3.3.1.4. In the case of doctoral studies, sustainability is achieved when doctoral studies in the study programme group are based on well-established fields of research and development within the higher education institution that have successfully undergone evaluation. Supervisors of doctoral theses are actively engaged in research and have supervised successfully defended doctoral theses.**

*Not applicable for this review.*

### CONCLUSIONS AND AGGREGATED ASSESSMENT: SUSTAINABILITY

The panel has taken into consideration the assessment areas of Quality of Instruction and Resources. Whilst in the current status and in the short-term overall, the panel has deliberated that those two assessment areas are in conformity, when taking into consideration the reflections for sub-areas identified as partially in conformity and the short-term evaluation that could be undertaken at this stage of the launch stage of a new programme, the panel is of the opinion that the criteria of sustainability is partially conforming. This is due to the factors associated with the risks associated with academic staff who are involved in the programme who do not have an affiliation with the Institute, the large diversity and lack of clarity with regards to the supervisory team composition and challenged homogenous supervision across the cohort, and the weakness in risk mitigation from a financial point-of-view.

#### Strengths

- The fees paid by the students contribute to offset some of the expenses incurred in the running of the programme.
- The commitment by the University of Tartu to support the programme as a new programme for the first initial years.

#### Areas of concern and recommendations



- The programme lacks a risk analysis with a risk mitigation approach. The panel recommends a risk analysis exercise with mitigations to address risks associated with part time untenured staff, student numbers needed to make the programme viable and maximum student numbers the infrastructure can handle, fluctuating student numbers.
- The panel advises that the programme team looks more into the long-term financial projections among other relevant risks.