# Quality Assessment of the Study Programme Group of Medicine at the University of Tartu, Estonia

| HE Institution | Study programme | Level |
|---|---|---|
| University of Tartu | Medicine | Integrated Bachelor's and Master's programme |
| | Medicine (in English) | Integrated Bachelor's and Master's programme |
| | Pharmacy | Integrated Bachelor's and Master's programme |
| | Dentistry | Integrated Bachelor's and Master's programme |

**Members of the expert panel:**

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**Mr. José Dias** – student, University of Coimbra (Portugal)

Coordinator of the panel:

Tiia Bach – Estonian Higher Education Quality Agency, EKKA

## Introduction

The Study Programme Group of Medicine (SPG) (Medicine, Pharmacy and Dentistry programmes) at the University of Tartu, Estonia, was reviewed by a panel of experts.

The site visit was on the 28th and 29th of October 2014 at the University campus and organized as follows:

- Meeting with the Vice-Rector for Academic Affairs of the University of Tartu (UT)
- Meeting with the Dean of the Faculty of Medicine and the Faculty Senior Management
- Visit of the facilities and infrastructure (Biomedicum, UT Clinic, Pharmacy labs, 2 Dental clinics including Dental labs, Library)
- Meeting with the Manager of Medicine and Manager of Dentistry programmes
- Meeting with the academic staff of all study programmes
- Meeting with specialists in academic affairs
- Meeting with the students of all study programmes
- Meeting with alumni of all study programmes
- Meeting with Employers and Cooperation Partners
- Expert team consultation
- Closing meeting with members of the Faculty management and academic staff

## Review of the Medicine Study Programme Group at the University of Tartu

The EKKA appointed review team received the Self Evaluation documents (SED) in August 2014 and the team reviewed and commented on them. The team met on the 27th of October at EKKA and planned the visit which took place on the 28th and 29th October. We were impressed with the extensiveness, openness and reflection in the SED. We visited the various teaching sites including the University Hospital and University Library. We met the Vice-Rector for Academic Affairs of the University, Dean and Vice-Deans of the Faculty of Medicine, programme leaders, teaching staff and students. We also met representatives of the alumni and employers. This allowed us to triangulate data and gave us a clear picture of the programmes. Due to the recent sudden death of the pharmacy programme leader it was unfortunately not possible to have a deeper insight into future structural planning and development in Pharmacy.

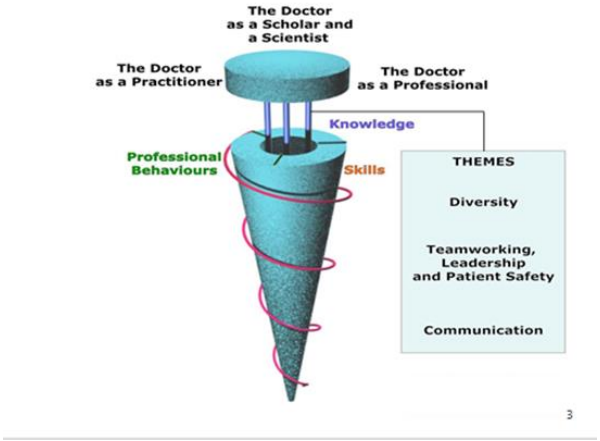
## 1. Study programmes and their development

### *Medicine*

It is a great step forward to adopt the EU "Tuning" learning outcomes for the new medical programme. The outcomes are based on strong educational principles:

- Encourage students to understand concepts and principles rather than merely reproduce factual knowledge.
- Provide a clinical context to enable students to relate their learning to future practice.
- Encourage students to integrate their learning across systems & disciplines.
- Encourage students to adopt independent thought and self-direction in their learning.

The Faculty has chosen a slightly difficult approach by trying to adapt the old curriculum to the new which will give some challenges in curriculum design, but it is probably the quickest way to bring about change. We commend the involvement of students in the programme leadership team. The next step, as you have pointed out in the SED, is to map the learning outcomes of the courses to the programme and identify where the gaps are. You need to ensure the curriculum meets the needs of the modern Estonian healthcare system and the changes that are occurring in your society. You might consider introducing themes that run across courses and years such as communication, teamwork, leadership, ethics, diversity and patient safety. These may be touched on in many different courses but will need people to lead them.




There is always a tendency to add new areas to the curriculum without removing material. You will need to develop a system that rigorously evaluates programme content and removes non-essential material. Some of the programme outcomes are not assessed adequately, particularly clinical and communication skills. Communications skills teaching are not well developed and needs to be. It probably needs a working group to look at how this can be imbedded in the curriculum. For example, two good resources to help with this would be “Skills for Communicating with Patients”, and “Teaching and Learning Communication Skills in Medicine” by: Jonathan Silverman, Suzanne Kurtz, Julie Draper, Nov 2004.

**Recommendations:**

M1. Map the learning outcomes of the courses to the programme and identify where any gaps occur.

M2. Continue to involve both students and residents in leading the changes to the programme.

M3. Explore how students learn about topics such as communication, teamwork, leadership, ethics, diversity and patient safety and how they will be assessed.

### *Pharmacy*

Professional standards for pharmacists in Estonia are not clearly defined, which could seriously affect the ambition to reach the EU standards for learning outcomes in pharmacy. It is important that the students are able to develop their professional identity as a pharmacist.

The proportion of medicinal subjects has been increased and chemistry based subjects have been decreased, following the international development. However, a broad chemistry platform is

important in a pharmacy curriculum. It seems that a deeper understanding of pharmacology and also an overview of drug development are needed. Furthermore, the curriculum should be strengthened in community pharmacy and regulatory aspects. The study programme content is overloaded and should be changed in order to give more time for understanding and reflection. To make place for changes in the curriculum, the need for extensive knowledge in subjects like Botany and Latin should be seriously discussed and reduced. Some subjects, like Biochemistry, are important, but the depth of study and the length of study content is not adjusted for pharmacy as a profession. Biochemistry is important but it is taught in too much depth over a short period, which causes students to be stressed. The students are training to become Pharmacists not Biochemists.

The learning environment in the new institute building is modern and well organised for both theoretical and practical work. It is an advantage that practicing pharmacists and specialists in different fields of pharmacy are involved in the teaching process. Research work in the end of the programme is an excellent part of the curriculum and gives the students the possibility to understand the process of research. There seems to be a well organised student feedback system for the development of the programme. On the other hand, a stronger connection between the pharmacy in society (community pharmacy, regulatory bodies, and companies) and the Department of Pharmacy should be seriously encouraged. A specific plan for development of the future curriculum was not presented.

**Recommendations:**

P1. The programme team should look at ways of strengthening students' professionalism and their professional identity as pharmacists.

P2. The programme should be modernised to reduce the burden of factual knowledge and allow time for reflection and critical thinking skills to develop.

### *Dentistry*

The documentation for the Dentistry programme was well prepared and almost complete. The information lacking in SED was generated during the site visit.

The Dentistry programme is scheduled as a 5-year Integrated Bachelor's and Master's programme corresponding to the department's mission statement and principles of operation. The programme is, in essence, organized and conducted according to the European standards.

We commend the small group teaching (8 students) and the focus on patient treatment in the clinic. There is a high dropout rate in the first clinical year and currently it is not possible to recruit international students. The annual intake is currently 32 students, but with student attrition the graduating cohort size may reduce to only 25 dentists. Students mentioned that part of the reason for the recent high dropout was the lack of clinical relevance in the first year of the curriculum which contained a number of lectures which the students felt had no immediate relationship to dentistry. In Germany and Austria, for example, there are dental material courses in the first year.

**Recommendations:**

D1. From the first year, students should study and practise aspects of clinical dentistry.

D2. The programme team could consider opportunities for interprofessional learning with dental hygienist and dental technicians.

D3. Specialty and PhD models in Dentistry are at the current time not established, but they could be planned for the future and integrated in the new facility plan of a dental clinic in the next years.

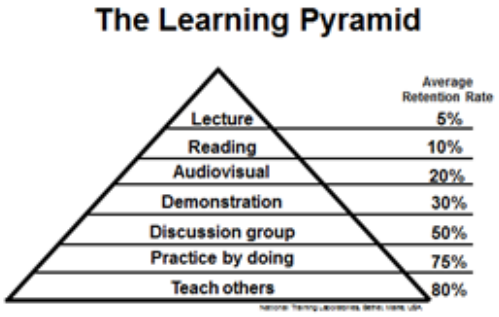
## 2. Teaching, learning and assessment

### *Medicine*

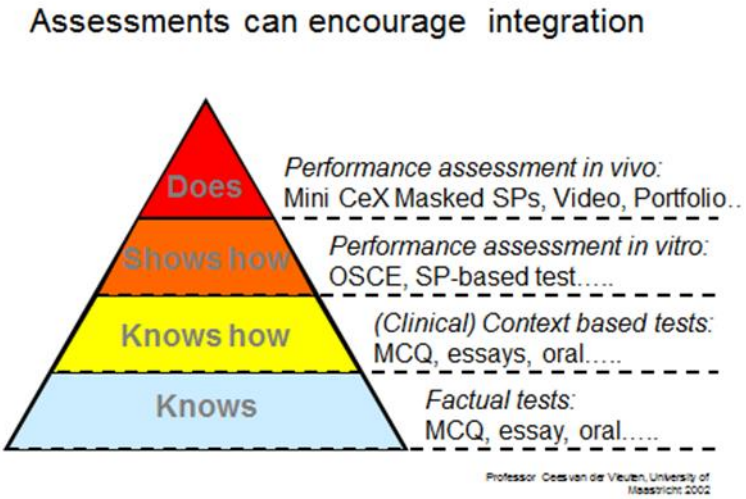
You have a large number of courses but still manage to have small group size of 12 students for tutorials and seminars and 8 for clinical teaching. Students would like to have teaching to be set in a medical context so they can understand the relevance of what they are learning to their future role as a doctor.

There were concerns raised by the students about lack of communication between curriculum and course leaders, so material was presented in a way that did not enhance their learning and there was repetition in the delivery of some material. They also mentioned examples of excellent practice such as the teaching in medical biochemistry. We heard that there were no direct one to one observation of students undertaking history and examination of a patient for example in an assessment of Clinical Competence (ACC) or Mini CEX. The students would like less didactic teaching and more patient orientated bedside teaching. The students said it is rare for a graduate in medicine to have witnessed a women going through a normal labour and delivery despite having an obstetrics attachment.

We heard that the students and graduates felt that the pedagogical skills of some of the clinical teachers were poor. They tended to rely on didactic teaching rather than interactive modern methods, such as case discussions, problem based learning, e learning or flipped classrooms.




The students wanted more bedside teaching and also the ability to practice clinical skills. For example, in the Course in Pulmonary medicine all assessments are written and theoretical, whereas paediatrics and family medicine have a variety of assessments to give a more rounded view. We would recommend that you develop an assessment strategy that ensures knowledge, skills and behaviours are assessed. There is a need to review how clinical skills are taught and assessed across the curriculum which may also bring about economies of scale by combining a number of small skills facilities (see *Resources* section). Medicine could learn from other examples of good practice such as the dental OSCE and the pharmacy training room.




**Recommendations:**

M4. Develop a staff development strategy, particularly for clinical teachers, so that the teachers can help students learn in an active way.

M5. Develop ways where teachers can share and exchange what they are doing in their courses – perhaps an away day or a poster exhibition as well as regular meetings.

M6. Develop an assessment strategy, which includes assessment of skills and behaviours not just knowledge. This might include assessment of clinical consultations and OSCE.

M7. Review the teaching and assessment of clinical skills

### *Pharmacy*

The process of teaching seems to be very rigid because of the heavy teaching load of the staff. It is of utmost importance to continue to modernize the different subjects according to high level of international standard by being involved with collaborations. Modern methods have been partly included in the teaching process but need to be further developed, e.g. case- and team-based learning. A good example of active learning and assessment is the pharmacy teaching classroom. It is desirable to increase the capacity for understanding instead of memorizing a large amount of data. Further development of assessment and simulation of the pharmacy skills in the form of a small community pharmacy is very important for a high quality outcome in the programme. The assessment process should be further developed to strengthen the knowledge and practice-based outcome. If possible, we suggest the use of English textbooks as the recommended standard text. We heard an example of good practice where students gave seminars and were involved in peer teaching. The students also undertook a short piece of research in a subject of their choice which they wrote up and defended which gave them skills in communication, presentation and critical appraisal.

**Recommendations:**

P3. The practical training could be extended to hospitals and community pharmacies in the whole country.

P4. Encourage students to develop their communication skills with patients and other health professionals to strengthen their confidence and professional identity.

### *Dentistry*

In dentistry, the teaching methods and content of teaching units are sufficient for the successful achievement of the programme's goals and outcomes. The small group teaching with eight students allows personal demonstration and supervision particularly with the phantom models and patients. All lectures are provided on the Moodle platform as are videos and quizzes, which also support students' learning.

A very good example of active learning and assessment is Objective Structured clinical Examination, as described by Harden and Gleeson in 1977, which is used in the 4th year of study. The web-based student portfolio in dentistry that records progress and reflection is in place and the programme is evaluated using Moodle and questionnaires. A concern is that there is less prosthodontics patients because of high patient cost (only 25% reduction in price is offered to the patients). More integrated clinical courses with synoptic assessment are needed.

**Recommendation:**

D4. Establish an unscreened clinic where students undertake initial diagnosis and treatment planning sessions to improve their confidence and prepare them for general dental practice.

## 3. Resources

### *Medicine*

We were impressed with the buildings, facilities, University Library and the University Hospital. You have some great resources, excellent Wi-Fi and computer facilities. There is a need to review how clinical skills are taught and assessed across the curriculum, as it may be possible to consolidate some of the resources to create a larger more effective clinical skills facility rather than a number of small ones. We were pleased to hear how the sixth year has been developed to give the students more practical clinical experience by using centres outside Tartu University Hospital. We suggest that this model might be used in the 4th and 5th year as well with student rotating through placement in other large centres. The students would welcome this as they felt that the University Hospital had too many students and residents competing for the same patients.

**Recommendation:**

M8. Consider using more placements in other healthcare centres for clinical teaching.

### *Pharmacy*

The move to the new institute close to natural science and medicine is a real improvement. The department has new and modern laboratories and learning facilities as well as an excellent library. Especially the development of assessment and simulation of the pharmacy skills in the form of a small community pharmacy is very important for a high quality outcome in the programme. However, some important equipment, e.g. high performance liquid chromatography, is available for

research but should also be available in the undergraduate teaching. There is sufficient supply of textbooks both in the English and Estonian languages. We are concerned about the limited funding for basic laboratory material.

**Recommendation:**

P5. Ensure that there is adequate funding for covering the running costs and that the equipment of laboratories is modern and up to date.

### *Dentistry*

Infrastructure, including the provision of phantom heads, is, in essence, adequate to run the Dentistry programme. However, the expert panel advices the University to further build a new Dental Clinic and to merge both clinics in order to allow a study programme to run according to the European standards. The team were impressed that all teaching materials are on Moodle, there is and effective Study Information System and easy accessibility to Internet for all. Nevertheless, being located in two different clinics makes integrated clinical work very complicated and patients might experience this as unprofessional. As we were told during the site visit, the current budget is not adequate to fund replacement chairs and equipment.

**Recommendations:**

D5. Merge both clinics into a new Dental Clinic.

D6. Identify Faculty funds for the ongoing capital replacement costs of major equipment and dental chairs.

## 4. Students

Admission to the programmes is currently only on academic criteria. You could further explore what kind of qualities you want in an Estonian doctor, dentist, and pharmacist. Do they have the skills to work in a team? Should dentists have a test of manual dexterity? Should there be a process to monitor student fitness to practice?

All 1. Explore non-academic criteria for admission.

All 2. Explore fitness to practice processes.

See http://www.gmc-uk.org/education/undergraduate/professional_behaviour.asp

### *Medicine*

Students are highly capable and hardworking though many have to undertake paid work to support themselves through their studies. The students we met were engaging, articulate, bright young people. They were caring and committed. They felt they had many opportunities to feed back and that they were listened to. They were not always sure that changes happened: “You said -we did”. There appeared to be strong active student associations and societies who supported the students. One of the strengths of the programme was the involvement of students in the programme review and we heard many examples of how they had become “your critical friends” and agents for change.

**Recommendation:**

M9. Find ways to ensure the students are informed of the changes made in response to their feedback.

### *Pharmacy*

The students are, in general, satisfied with the programme and the student associations have a position of influence in the Faculty. The knowledge level of admitted new students, e.g. in natural science, is a severe problem and this has affected the drop out level in the first year of the programme. It is obvious that the students in medicine, dentistry and pharmacy are separated in both studies and social activities. Employers are, in general, satisfied with the quality of the graduates. However, there is a need for improvement of knowledge in community pharmacy, regulatory aspects and understanding of the drug development process. We would encourage more students to continue studies on PhD level to strengthen academic Pharmacy in Estonia.

### *Dentistry*

Students are highly capable and hardworking, and they have a great motivation and constant interest to upgrade their skills. The employers are generally satisfied with the graduates, but the limited experience in prosthodontics is a problem that is caused by the high cost of prosthetic treatment for patients who do not always trust the unexperienced students to perform the necessary procedures.

The first-year students have a tutor amongst the older students to better adapt to the study process and to introduce the city, living conditions, traditions, student organizations, etc. The students do not have to pay fees and for other dentistry materials, decreasing the possibility of dropout due to financial issues. The team were impressed that you recruit motivated and capable students; the tutoring system creates a very important system for students' integration and counselling. There is good cooperation between students and academic staff. A large proportion of students want to continue their studies in residency training in Tartu and the employment rate is high. Employers are satisfied with the professional preparations of the students.

Only a few students have the opportunity for exchange programmes. In some cases, poor Estonian language skills among Russian-speaking Estonian students cause difficulty.

**Recommendation:**

D7. Increasingly support the Russian-speaking Estonian students with Estonian language classes.

## 5. Teaching staff

We heard that the University had developed a system of peer development of teaching but that at the moment it was not evident in the Faculty of Medicine with less than 10% of teachers having engaged in this activity.

**Recommendation:**

**All 3**. The University system of peer development and review should be rolled out in the study programme group of Medicine perhaps with a teacher portfolio.

### *Medicine*

All the staff we met – administrative, clinical and academic – were enthusiastic and committed. Overall there seemed to be adequate teaching staff and good use was made of clinical staff at the hospital with flexible appointments. Many staff was well qualified and engaged in high quality research. However, it was clear that there were issues in valuing teaching equally with research. We also hear that many staff were not experienced in modern teaching methods, nor had the teaching and assessment of practical and clinical skills been fully explored.

Perhaps you could look at ways to support, reward and recognise educationally focused staff, so that they are valued and promoted in the same way as research focused staff. The English language skills of many of the teachers were good but the students raised particular concerns about some of the teachers' language skills on the English programme especially as they moved into the clinical environment. There are ways to recognise educational scholarship such as curriculum design and leadership. We feel you need to support and develop clinical teachers with their teaching skills and improve their training in clinical assessments of students.

**Recommendation:**

M10. Develop a staff development strategy for clinical teachers, which includes learning about educational principles and active learning techniques.

### *Pharmacy*

The pharmacy staff are committed in their own field of study but sometimes struggled to see the bigger picture at a programme perspective. The number of teachers in some subject areas is very low and even if the staff help each other the situation is very vulnerable, for example, in cases of serious and long-term sick leave. To get a closer connection between research and teaching, it would be desirable to increase the academic level for incoming new staff. There seems to be limited feedback to staff on their teaching. There is no real reward for a good educational performance. More resources are needed for teacher development and to strengthen possibilities for international contacts, e.g. meeting with colleagues in other countries and participate in international meetings as well as collaboration in pharmacy teaching and research. Furthermore, the pedagogic development should be promoted.

**Recommendations:**

P6. Establish a collaborative group between pharmacy staff and representatives of pharmaceutical activity in society for the sustainable development of high quality pharmacy programme.

P7. Develop a staff development strategy for teachers which include learning about educational principles and active learning techniques.

P8. Strengthen possibilities for international contacts and collaboration in pharmacy teaching and research.

P9. Increase resources for recruitment of future staff on high academic level.

### *Dentistry*

In the Dental department 22 teachers are employed, 55% holding a PhD degree. In the last 3 years of the curriculum, the students work in the dental clinic treating patients on their own under the supervision of assistants and professors of the dental clinic. They get monitored by continuous appraisal and regular assessment and seem to be accepted by patients and their profession. The teaching staff are highly qualified and motivated. Academic staff has research experience and participates regularly in scientific conferences. There is a mentoring programme for teaching staff. The curriculum also has visiting international academic staff.

## Summary:

The four programmes with the study programme group of Medicine are at different stages of their evolution. We feel that there are many missed opportunities for learning from each other across the Faculty. The Dean and his team should consider ways where good educational practice could be shared.

The Medicine in English is only in its second year and so a lot of preparation for the later years needs to still occur. As it is a new developing programme, the quality should be monitored closely. The Medicine programme has changed its final year this academic year and there is much work that needs to be done to ensure that the outcomes of the programme (EU Tuning outcomes for Medicine) are met. Further work is needed in Medicine to develop the curriculum and assessments and in order to do this a programme of staff development will need to occur.

The team would like to recognise and acknowledge the leadership of the late Professor Veski in developing the pharmacy facilities and programme over the last ten years. The new programme leader will need to build on this and compare the curriculum with other EU pharmacy curricula and assure the high quality of the programme. The new leader should encourage links with the Faculty, employers and regulatory bodies.

Dentistry is a well-designed and delivered programme with many examples of good practice, but there is still work to do to ensure that the learning outcomes are appropriately assessed.

**We particularly commend:**

1. The support given by the academic affairs team at Faculty level to the students
2. The student-led group tutor system to support students
3. The OSCE in dental programme and the use of Moodle to support students learning
4. The teacher mentoring programme in dentistry
5. The web-based student portfolio in dentistry that records progress and reflection
6. The new Pharmacy building linked to Natural Science
7. The interactive Pharmacy teaching room
8. Adopting the EU learning outcomes in Medicine and working with students to develop the new programme
9. The University Study Information System and supportive student affairs staff
10. The engagement and commitment of all the students

We thank the University and all the staff and students we met for their openness commitment and enthusiasm.

**Appendix A: Summary of recommendations to the Faculty of Medicine**

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| **All 1** | Explore non-academic criteria for admission. |
| **All 2** | Explore fitness to practice processes. |
| **All 3** | The University system of peer development and review should be rolled out in the study programme group of Medicine perhaps with a teacher portfolio. |
| | **Medicine** |
| **M1** | Map the learning outcomes of the courses to the programme and identify where any gaps occur. |
| **M2** | Continue to involve both students and residents in leading the changes to the programme. |
| **M3** | Explore how students learn about topics such as communication, teamwork, leadership, ethics, diversity and patient safety and how they will be assessed. |
| **M4** | Develop a staff development strategy particularly for clinical teachers, so that the teachers can help students learn in an active way. |
| **M5** | Develop ways where teachers can share and exchange what they are doing in their courses - perhaps an away day or a poster exhibition as well as regular meetings. |
| **M6** | Develop an assessment strategy which includes assessment of skills and behaviours not just knowledge. This might include assessment of clinical consultations and OSCE. |
| **M7** | Review the teaching and assessment of clinical skills. |
| **M8** | Consider using more placements in other healthcare centres for clinical teaching. |
| **M9** | Find ways to ensure the students are informed of the changes made in response to their feedback. |
| **M10** | Develop a staff development strategy for clinical teachers, which includes learning about educational principles and active learning techniques. |
| | **Pharmacy** |
| **P1** | The programme team should look at ways of strengthening students' professionalism and their professional identity as pharmacists. |
| **P2** | The programme should be modernised to reduce the burden of factual knowledge and allow time for reflection and critical thinking skills to develop. |
| **P3** | The practical training could be extended to hospitals and community pharmacies in the whole country. |

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|---|---|
| **P4** | Encourage students to develop their communication skills with patients and other health professionals to strengthen their confidence and professional identity |
| **P5** | Ensure that there is adequate funding for covering the running costs and that the equipment of laboratories is modern and up to date. |
| **P6** | Establish a collaborative group between pharmacy staff and representatives of pharmaceutical activity in society for the sustainable development of high quality pharmacy programme. |
| **P7** | Develop a staff development strategy for teachers, which include learning about educational principles and active learning techniques. |
| **P8** | Strengthen possibilities for international contacts and collaboration in pharmacy teaching and research. |
| **P9** | Increase resources for recruitment of future staff on high academic level. |
| | **Dentistry** |
| **D1** | From the first year, students should study and practise aspects of clinical dentistry. |
| **D2** | The programme team could consider opportunities for interprofessional learning with dental hygienist and dental technicians. |
| **D3** | Specialty and PhD models in Dentistry are at the current time not established, but they could be planned for the future and integrated in the new facility plan of a dental clinic in the next years. |
| **D4** | Establish an unscreened clinic where students undertake initial diagnosis and treatment planning sessions to improve their confidence and prepare them for general dental practice. |
| **D5** | Merge both clinics into a new Dental Clinic. |
| **D6** | Identify funds for the ongoing capital replacement costs of major equipment and dental chairs. |
| **D7** | Increasingly support the Russian-speaking Estonian students with Estonian language classes. |