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ACCREDITATION COMMITTEE

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MEDICAL AND HEALTH SCIENCES
AND
SPORT SCIENCE**

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Training in GENERAL MEDICINE

ACCREDITATION REPORT

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Comprehensive Evaluation of Medical Training in Hungary

Single-cycle long study programmes in *General Medicine* are offered at four universities in Hungary:

at the Faculty of General Medicine of the **University of Debrecen** (DE),
at the Faculty of General Medicine of the **University of Pécs** (PTE),
at the Faculty of General Medicine of **Semmelweis University** (SE),
and at the Faculty of General Medicine of the **University of Szeged**
(SZTE).

Overview

The last accreditation audit and evaluation carried out in 2006 resulted in the successful accreditation of the single-cycle long study programmes in *general medicine at all four places of study in Hungary until 2014*. The Hungarian, English and German language programmes at SE and the Hungarian and English language programmes at DE, SZTE and PTE were granted unconditional accreditation until that time. In the meantime, the German language programme at PTE has also been accredited.

It is considered an important sign of international acceptance that the adequacy and compliance with US standards and processes of Hungarian accreditation practices in medical training were recognised **for another six years** by the US agency for examining foreign accreditation practices in medical training (**NCFMEA**) in its decision of 21 October 2011. To earn this recognition, multiple conditions had to be met: most importantly, **accreditation audits** (incorporating **site visit**) of hospitals and clinics outside the EU used as clinical training sites in Hungarian medical education had to become general practice. This was confirmed in Decision *2010/10/VI* of the HAC, based on the consensus of leading representatives of the four Hungarian medical training institutions concerned. Maintaining this recognition involves nearly constant monitoring: the HAC needs to receive quality status reports on medical training each year, and must issue an evaluation. The next hearing of NCFMEA regarding the ‘case of Hungary’ will take place in the autumn of 2015 at its seat in Washington. They are aware of this year’s comprehensive audit and will expect to see the results.

In terms of methodology, this audit and evaluation rely primarily on the written *self-evaluation reports*, similarly to the exercise conducted eight years ago. The complexity of the documents to be submitted and the peculiarities of medical training – and thus its presentation – might have caused some difficulties, or the guidance on the documents to be submitted might not have been clear on all points, which might be why this time it was more frequently necessary to request additional information and to ask specific questions at the site visits. The methodology of visits continued to focus on parallel processes, ensuring that the activities of similar units were examined at each Faculty, as it was, naturally, not possible to examine all units.

These units included institutes of theory (*anatomy, physiology, pathology, biochemistry, genetics, pharmacology, microbiology, laboratory medicine*), as well as clinical units dealing with *internal medicine, surgery, traumatology, oncology, nuclear medicine, neurology, paediatrics* and *population health*. Whenever possible, the visitors preferred to obtain information about practical training by more direct means. Even though the subject of the audit was the quality of gradual education, links to postgraduate education (of specialist physicians) as well as progress to doctoral training were also addressed to some extent. Perhaps even greater emphasis than before was placed on taking into consideration student feedback, which was accomplished through meetings with students and student self-governments, as well as through electronic ‘survey monkey’ questionnaires on student satisfaction. As always, the evaluators obtained a great deal of useful information from these sources.

Before presenting a more detailed analysis, it must be noted that **medical training is a leading aspect of Hungarian higher education, its performance is highly valued internationally, it is marketable, and the maintenance and improvement of its standards are a national interest. It would be worth investing into both human resources and infrastructure for the purpose of its development.** This is even more the case as the quality indicators assessed during this audit already reflect the impact of the changes and events that have taken place over recent decades in higher education, in healthcare, in the labour market and especially in the medical community - and this impact on this complex form of training is, for the time being, unfavourable. The higher education institutions providing the gradual study program that is the longest in the Hungarian training system, comprised of 12 semesters, and which is the most costly for all concerned (even with state subsidy) are vulnerable to general financial difficulties, which motivate (or even force) them to develop survival strategies. They must seek and leverage the opportunities that the general regard for medical training and the profession itself, the demand for medical graduates and the international interest and demand for teachers in medical training offer in an increasingly open world. This has opened up novel horizons for Hungarian medical training that are also a source of problems.

Compliance with learning and outcome requirements in the accreditation criteria: the training process and its effectiveness

The content of training, ratios, modernity, transfer and testing of knowledge, pathways for development

In 2006 the set of learning and outcome requirements (LOR) applicable to single-cycle long study programmes in applica *general medicine* was revised. The presentation was overhauled and the content underwent some changes as requirements became **competence based**. Accurate verification of compliance was made more difficult when, for example, in some self-evaluation reports, classification of the knowledge delivered was not necessarily in line with the LOR, or where optionally day and the relevant rules were not clearly specified; this prevented precise comparisons. Nevertheless, based on the **information and curricula disclosed for the four study programmes**, there are **no substantial differences** in terms of **professional content** or the programmes for imparting professional competencies.

Exceptionally deep theoretical learning and a **strong grounding in the underlying sciences** have long been a **strength** of Hungarian medical training and still characterise all four of the study programmes available. It is commendable that the changes to curricula suggested by former accreditation audits seem to have been implemented as well: for example, (*surgical operation*) is now a compulsory subject also in Budapest, *ethics (medical ethics, bioethics)* are part of the curricula everywhere, appropriately usually in the third or fourth year, only in Pécs in the first year. *Pharmacology and pharmacotherapy* are incorporated into the curricula with a higher number of hours as recommended, too. Currently, this subject has the largest number of hours in Szeged (cc. 200), and 120 to 140 hours elsewhere. Regarding “*complementary medicine*”, the content of which is far from being clear or unified, the position of traditional official medical training is currently in development based on the position statement of the Hungarian Academy of Sciences. Understandably and perhaps luckily, this “field of knowledge” has not been incorporation into the curricula, although the self-evaluation submitted by Pécs mentioned endeavours in this regard, which were not successful and probably could not be successful, if only due to these uncertainties.

It is now time to point out regarding *preventive medicine* and *population health* that while both are specifically named in the LOR as fields of core medical knowledge and are a separate professional competency (*primary, secondary and tertiary prevention*), they still appear to lack the proper weight in the curricula. They are assigned **10** credits in Debrecen only, but only **6**

credits in Szeged, for example. The **importance of the teaching of prevention is unquestionable, its significance for the profession and the society has rather increased while the weight of the subjects has not.**

It is not advantageous that the field that has undergone perhaps the largest expansion in the last 15 years, i.e. *medical* or *clinical genetics* is represented in a fragmented manner at most of the universities; at one university, for example, *human genetics* is taught by five departments. This causes problems with the documentation of Hungarian study record books for the purpose of international equivalence. The desirable best practice would be to have separate departments/institutes for medical/clinical genetics at all universities, and to have suitable testing practices for the subject.

Neither the diagnostic aspects of *microbiology* nor the teaching of *diagnostic pre-clinical/clinical* subjects - perhaps with the exception of *pathology* - are given sufficient weight in the curricula. The teaching of *medical imaging* has been unable to find its footing since the privatisation of this field. At none of the universities is there a well-organised institute or other university unit with suitable technical background to teach *nuclear medicine* and *radiology* at the proper depth and in the proper number of hours. The teaching of *clinical biochemistry/laboratory medicine* ranges from the minimum to the desirable level and is given the appropriate emphasis at only one university (Debrecen).

The minimum 65% share of practical training required by law through the LOR for study programmes in *general medicine* is approximately $\frac{1}{2}$, as far as it can be certain from the varying presentation of the curricula. Stakeholder feedback indicates, however that in practice this is insufficient to impart the required professional competencies in all of the programs, to varying degrees. While recognising the excellence of medical training in Hungary in general, the assessment given eight years ago already pointed out this **weakness**, i.e. the **issues with practical clinical training**. The incorporation and implementation of practical training to go along with and to provide practical skills to support theory is most often prevented by capacity problems and, at times, by insufficient commitment. Additionally, the teaching of clinical subjects does not follow modern requirements as universally as would be desirable; for example, *oncology/oncotherapy* is not everywhere a separate subject, nor is *rehabilitative medicine*. Students at every faculty visited reported issues with the content of practical clinical training.

Nature, methodology, efficiency and effectiveness of the courses and of testing

As for the nature of the courses, medical training is based on the classical model of lectures and practical training. Practical training involves the learning of examination methods, physical examination, electrocardiogram, Doppler exam, and the evaluation of x-ray and CT/MR images, through which students are able/supposed to learn the required skills. In their general opinion, unfortunately, they do not have sufficient opportunities to do this. Most practical training sessions involve too large groups (of **10** to **20** students), and are much more similar to lectures being given to small groups than to actual patient presentation. This means that they are unable to become sufficiently familiar with the symptoms, progression and therapy of the leading medical causes of death, or, for example, to become sufficiently grounded in oncological treatment or the treatment of stroke or coronary diseases.

While all of the universities have **skill laboratories**, the capacity of all of them has already proven insufficient. The arrangement of clinical subjects into **blocks** is only done in Debrecen yet, where it has been a popular curricular arrangement for three years. The teachers at the other universities do not consider this a suitable or successful form of teaching; indeed, it is only effective if done in small groups at teaching hospitals which have accredited teaching staff of high quality. This would require an increase in the number of practical training sites almost everywhere. There are great hopes that the difficulties of practical training in internal

medicine can be overcome through teaching thematic blocks, which are being introduced at several universities. This is because in practice, teaching internal medicine by the actual bedside does not generally meet student expectations – or the applicable requirements. An additional issue for international students (who do not speak Hungarian) is that – although at least the German-speaking students (at least part of them) return to their home country to receive clinical training – part of the students in English language study programmes receive clinical training in Hungary and have problems communicating with the patients because most of them do not learn sufficient Hungarian.

Unfortunately, the students – at least those we met – did not report having opportunities or an interest in reading Hungarian and leading international medical journals. They mostly only read literature available online if it cannot be avoided, too. The paradigm of evidence-based decision-making is far from being universal. The relevant field (*evidence-based medicine*) is a mandatory component of the curriculum only in half of the programmes (*SE, SZTE*) and is optional in the others.

It should be pointed out that there is an **overabundance** of courses offered by the faculties of general medicine or at least indicated as **optional** in the self-evaluation reports. The number of courses offered by the faculties is often close to a hundred, most of them being of relevance to medicine. Additionally, medical students at universities of science also have access to the entire range of courses available at the university, an opportunity medical students may not necessarily be able to take. The **statutory requirement** of offering at least 5% of all credits – here, **18** credits, e.g. **9** two-credit courses – and a **20%** larger offer for options (e.g. at least **15** courses) is therefore met everywhere. It in fact exceeded many times over, which, knowing the workload of teaching staff, is at least something to think about. These subjects are almost exclusively taken up by some of the students for the sake of credits. The scholarship arrangements prefer superficial apparent performance, too: earning the best marks for difficult subjects does not grant a student the maximum scholarship amount. It is understandable that doing many easy optional courses is the more popular choice.

The **system of testing** is traditional, the circumstances and conditions of exams (oral and written) and of the marks for practical training mostly comply with the relevant requirements. Most of the deficiencies and deviations reported by students arise from the limited capacity of teaching staff, with rare irregularities, lack of attention and possibly conflicts caused by the wrong attitude of teachers. International students are more sensitive to these and give stronger feedback, which, however does not always reach the intended target as if their representation was not fully developed. In general it seems that certain student problems cannot be communicated effectively. This raises the question as to the effective operation of student self-government. A universal problem concerning registration for exams online is that at the time when registration opens, it requires serious technical organisation and cleverness for a student to be able to register for the desired date. Often, the situation is similar with the registration for courses. Earlier feedback on final examinations indicated an excessive emphasis on theory, which doesn't appear to have changed. It is not helpful that requirements regarding competencies – according to the feedback received – are mostly only formal, with little chances of being met.

The **graduation ratio** has always been rather **high** in general medical training, and still is. Students in this long training programme, which is known to be not easy, are motivated. The dropout ratio is low at around **10%** in the Hungarian language programs, with higher but progressively decreasing ratios for foreign-language programmes. Nevertheless, despite the fact that admittance requires high scores, both the students and teachers indicated that it would be helpful to have an additional **filter before admittance**, some form of evaluation and prior assessment of basic “aptitude” (a sensitive issue!), similar to the practice of **interviews** that was in place when much fewer students were admitted. How this could be realistically and

at the same time effectively implemented for such a large and multilingual group of applicants remains a question, though. In addition to theory, the acquisition of general medical competencies relies on **practical training**.

The circumstances, quality and up-to-date standards of this form of training are therefore an important factor in the quality of medical training and for the accreditation thereof. There have been valuably progressive actions – perhaps also due to the strong recommendation in previous accreditation evaluations – to strengthen practical training, including *changes to the curricula* and the establishment of **skill labs**, which can be considered the way of the future. Due to various factors, however, there has been no overall improvement in the situation criticised in the past.

Human resources, number of students and capacity

The **general capacity issues** have rather worsened, even though some trends – such as the increase in student numbers, the widening of foreign-language training and the strengthening of internationalisation – are undoubtably beneficial as they contribute to the international recognition of medical training facilities and thereby of Hungarian higher education in general, while also providing not inconsiderable additional revenues to both the universities and the communities where they are situated. For the time being, the risks involved in such progress in openness manifest more prominently than its advantages, and need to be countered.

This is apparent from the table showing the relevant figures.

Institution	Total number of <i>general medicine</i> students (person)								Change in the number of students (%) (figure of 2005 taken as 100%)		
	2005/2006				2013/2014				Hungarian	International*	Total
	Hungarian	International*	Total	Of which international%	Hungarian	International*	Total	Of which international%			
DE	986	627 (E)	1613	38.9%	1305	1468	2773	52.9%	132%	234% (E)	172%
PTE	797	300 (E) 210 (D)	1307	39%	980	715 (a) 568 (D)	2263	56.7%	123%	238% (E) 270% (D)	173%
SE	1425	718 (E) 806 (D)	2949	51.7%	2390	1174 (E) 779 (D)	4343	45%	168%	164% (E) 97% (D)	147%
SZTE	898	324 (E) 174 (n)	1396	35.7%	1297	658 (E) 251 (n)	2206	41.2%	144%	203% (E) 144% (n)	158%
Total / average	4106	3156	7265	43.4%	5972	5613	11585	48.5%	146%	178%	159%

International*: students in English and/or German language programmes.

The 2005 figures indicated that SE had the highest number of international students. By 2013 their proportion grew the most in Pécs and in Debrecen, but the number of international students (1953) remains highest at SE, even though their proportion declined somewhat (51.7% to 45%). Such a growth in the number of students (on average, 159%) while the number of teaching staff remained the same in the best case, if not declined, is a risk to the standards and reasonable implementation of training. As of the past decades, foreign language medical training programmes to **paying students have increasingly become an indispensable source of revenue, which has made it possible for universities to function and retain their teaching staff.**

Under the current financial circumstances, a **reversal or reduction of this process would cause medical training to be unfeasible**. Additionally, such foreign language training, which is still of the largest volume in Hungary, is increasingly important for the creation of jobs in the relevant regions. The students in these programs generate a very significant cash flow (more noticeable in the three cities outside Budapest), which is an important factor for the hospitality industry and for employment in a city's budget (accommodation, living expenses, entertainment, transportation etc.). *(For example, according to a calculation for Debrecen, 50% of all jobs in and revenue from the hospitality industry in the wider city area is associated with the foreign language programmes at DE!)* Additionally, medical graduates become ambassadors for the good reputation of Hungarian medical training in many countries of the world. It is no overstatement that **medical training is one of the most exportable product of Hungary**. **Retention and even the growth** of the human resources that are the source of this product is therefore an essential interest not only for the universities involved but also for the **nation as a whole**. At the same time, one must see that in the former East European block, one faculty after another is opened to provide study programmes in English, obviously offering lower quality training for a lower price. To retain our competitive position, it is essential that we uphold our reputation and standards by **making available adequate human and physical resources** – certainly more generously than today!

The situation outlined above brought a radical change to the traditional (“*Humboldtian*”) model of medical training universities, to the two-part function of institutes of theory (teaching and research) as well as to the three-part function of clinics (teaching, patient care and research). Due to their declining financial background, universities are widening the range of training they offer for a fee (which helps them with staff costs and provides them with revenue important for their functioning and for retaining their teachers). This result in the excessive dominance of teaching in their operating structure – provided that such a thing is physically yet possible. Teaching workload is further increased by the fact that most institutes and clinics have had to endure layoffs. **Clinicians are generally overburdened**. Excessive teaching workload in institutes of theory stifles research. There are institutes of theory that used to be hubs of science but which have reduced their research activities to a minimum. This not only hampers research but also leads to a decline in the standards of teaching on a longer term.

The requirements necessary to offer training **in two or three languages at the same time** are not met to the same extent everywhere. Also, in this situation, the need to teach international students can easily be detrimental to teaching in Hungarian. Understandable and justified complaining and dissatisfaction with practical training was universally felt both among international and Hungarian students. Providing trainers who meet all requirements (quality, experience, foreign language skills, capacity) is an issue everywhere that cannot be expected to resolve itself until conditions change. We were also told that the paying students, who are a source of significant revenue, do not always have substantial, autonomous and effective representation at the university.

All this means that the quality of operations subject to the traditional two or three tiers of expectations becomes unavoidably compromised. The **scientific activities of teaching physicians/researchers overburdened by teaching** is palpably (and understandably) curtailed. Also, it is increasingly difficult for clinicians to accommodate teaching in addition to medical practice, which sometimes forces teaching activities into the background. Excessive workload causes a vicious cycle as frustrated teachers leave the profession or the country. The number of professionals willing to put up with these circumstances is declining.

Recruitment of **teachers with a medical degree** is an acute issue of wages, as fresh graduates' net salary is at least twice higher in a bedside job that is not at a university clinic. In certain fields (e.g. *anatomy* and *microbiology*) teachers with a medical degree are becoming dangerously scarce, already causing problems with replacing faculty staff. In these fields the issue is not

only the lack of personnel, but, understandably, also the inadequacy of research and publication performance. Teachers in medical higher education, including institutes of theory, **must predominantly have a medical background**, if only to impart a physician's attitude. The inclusion of specialist physicians-in-training cannot replace the participation of experienced clinical experts in practical training. Nevertheless, under some constraining circumstances, this increasingly happens. It is still not rare for a practical training session to be not held, potentially without a replacement session, which is unacceptable!

In a situation like this, the most obvious way to reduce teaching workload would be to **increase the number of teaching staff at universities** to partially offset the impact of earlier layoffs and also to remedy the lack of physicians in Hungarian language medical training. Due to the financial consequences, **restrictions on the number of students** (including paying students) are **hardly reasonable**. Conditions need to become conducive to the **growth of teaching staff and the infrastructure**. Systemic changes should be considered.

One might also think that because universities calculate workload primarily on the basis of quantitative parameters (number of hours), the institutes generally endeavour to increase the number of hours and less attention is paid to quantitative indicators of the quality of training. This could contribute to the extreme workload of teachers. Additionally, excessive number of hours reduces profitability, mixing up important costs with incidental ones. When students criticise issues of professional emphasis at times, they also refer to the fact that **the number of hours assigned to some subjects do not reflect the depth and difficulty of the knowledge involved, or the optimal ratio between contact hours and individual learning**. It would be useful to review from this perspective the **training structure as expressed by the number of hours**. Reducing the number of hours – as long as strictly professional criteria are employed and the efficiency of teaching is unchanged – would be beneficial to the overworked students and teachers as well.

Another obvious and good practice – as long as appropriate accreditation requirements are met – would be to have international students in foreign-language programmes spend study **periods abroad** for the semesters of clinical practice that follow theoretical learning.

Such study periods could take place on the basis of detailed cooperation agreements at **European clinics, teaching hospitals** and other medical training sites abroad that are verified to provide appropriate training and practice opportunities. There are already good examples of this solution (e.g. *SE and the Asklepios Campus of Hamburg*), based on a proper accreditation audit and, if approved, providing training in responsible and careful manner with a focus on quality. Other institutions are making similar attempts. The key to supporting such endeavours is to ensure that the conditions of training provided by the foreign partner are verified and that the training provided meets the accreditation requirements based on Hungarian and international standards, does not pose a risk to quality, and does not compromise the reputation of the degree issued by the Hungarian institution. The widening of international links and the inclusion in study programmes of practical (clinical) training in foreign hospitals represent a step forward in any case.

Scientific background, academic research, talent management and career tracking

At the same time, while not only the maintenance but also the elevation of standards are a national interest with respect to human resources in medical training, the former is already proving difficult. To achieve this, it is necessary to **win over outstanding academic personalities** (an outstanding person can impact up to two generations of researchers). All participating universities were taking important steps, but success requires **stability**. A responsible manager (dean, head of institute) should be able to make binding promises for a span of 5 to 8 years.

The views below primarily concern the situation of university clinics, whose present situation

involves risks not only for research but also for the medical care of patients.

○ We must not dispense with the traditional three-part function of university clinics: this is where future doctors are trained, where medicine is practised at the highest level and where the most excellent clinical research is conducted. University clinics are a unique asset of medical training. This function, however, should be interpreted and defined at the level of each institution; at the same time, a **system of university career pathways** should be developed and universally accepted. Doctors at university clinics should not be expected to render the same level of performance in all three fields! It would be useful to lower the teaching workload of excellent and successful researchers, or to set lower expectations in the field of patient care and research for professional with an aptitude for teaching. In the same vein, expectations as to the research performance of a professional who is excellent in patient care could be lowered, as, for example, underserved fields not only have the problem of lack of staff, but, understandably, problems with research and publication performance as well. There are several examples of the latter now in the context of clinical head physicians with excellent professional training. This way, a lot of meaningless frustration and valueless, unnecessary pseudoscientific work could be prevented. Individual requirements could even be applicable to a specific period (e.g. if a physician wins a research grant, the requirements in teaching and patient care would be reduced for the time of the grant). The system should of course recognise those who excel in all three areas as the future leaders. The demand for clinical head physicians is increased by a peculiar trend in Hungary as well. The fusion of university clinics and municipal hospitals is constantly on the agenda in the cities outside Budapest. These fusions, the efficiency of which is doubtful, result in the creation of oversized organisations, where a single entity is expected to provide state-of-the-art healthcare services to the local population and ensure innovative medical development and the integration of new scientific and technological opportunities into medical practice. These two activities require different organisational structures, funding and rhythm of work; there are also differences in individual ambition and motivation for performing daily routine well and for engaging in innovation.

○ Research activities at universities conducting medical training offer opportunities for clinical research and the increasingly important **translational research** that are hardly available elsewhere. Unfortunately research in Hungary involves much less of what is theoretically possible in the way of research that is based on actual clinical issues, initiated by clinicians, includes an adequate number of patients and possibly the cooperation between institutes of theory and clinics. With the end of funding of ETT grants, there is practically no targeted support for clinical research in Hungary. There are hardly any application schemes offering funding for research projects initiated by clinics. Ambitious clinicians send their patients' information and samples to foreign workgroups. The academic hierarchy in Hungary lacks the clinical research hubs that are popping up one after another in other countries and form the infrastructural basis for clinical research. Additionally, university researchers shouldering a great teaching workload must compete for funding through applications with researchers who work in independent research institutions and have next to no teaching responsibilities.

The primary scenes of medical research at universities are the **doctoral schools**, almost all of which have gained an **excellent** reputation in Hungary and abroad through their research results and have **highly qualified core members and teachers** (members/doctors of the Hungarian Academy of Sciences, university professors).

Talent management at the faculties is implemented primarily in the form of student research societies and colleges for advanced studies, with some additional schemes (e.g. student teaching and research assistants). Departments of theory understandably use these schemes to select future teachers. They have the advantage that they can identify interested students in the first years of training; by the time they set to the clinical subjects, talented students are usually

already involved in a student research society. Nevertheless, every college of internal medicine and paediatrics visited, but also other clinics devote considerable effort to identifying and developing future scientists, including student research society members and doctoral students. This is especially advantageous because the number of medical graduates with an interest in clinical studies in PhD programs is declining, often giving way to biologists. The conferences, presentations and works of students research society members and PhD students in the medical field are of very high quality. Talented students with a strong motivation for their future (often envisaged abroad) are capable of impressive performance.

In addition to gradual training, which is carried out under the less than ideal conditions presented herein, medical schools have the additional task of providing regulated and organised training for medical specialists and residents. **The entire medical training community performs this task at the best of its abilities and possibilities, with respectable dedication.**

Career tracking of graduates is implemented everywhere, if only through the training of medical specialists. The information and data received and the demands and signals of the users side serve as the basis for quality improvement plans and provide support through feedback. A growing tendency of leaving the country and of attending further studies abroad, now also present among fresh medical graduates, is a serious issue for the future of Hungary.

Infrastructure

The basic physical resources for teaching are available to all programmes in general medicine (*any critical issues are mentioned in the evaluation of the specific university, e.g. SZTE Internal Medicine*). The lecture halls, especially in the newly built facilities, are modern and conducive to the learning of theory. Still, almost each university has some capacity issues. The best situation currently is in Debrecen, possibly due to the nature of the campus. The universities of Pécs and Szeged are conducting renovations and movement to other buildings, hopefully leading to positive results soon. The enormous new modern clinical unit being built in the “clinical quarter” in Budapest will undoubtedly serve not only patient care about teacher training at SE well. Nevertheless, the increase in the number of students stretches the limits of capacity everywhere – or rather, it has already exceeded them.

The in-university sites of **practical training** are usually suitable at the institutes of theory; at the clinics, they are subject to the prevailing conditions. The adequacy of teaching staff for practical training poses a bigger problem (see the relevant section). Also, as indicated above, the number of students attending practical training sessions is so high that effective teaching cannot be realistically expected. This might not count as an infrastructural problem in the strict sense of the word, but one solution is certainly to expand the physical infrastructure, e.g. by establishing additional **skill labs**, by increasing the number of practical training sites after careful and responsible consideration, and possibly by working with new accredited **practice departments**. **The quality assurance of external practical training sites is that they should be accredited departments or hospitals that have proven suitable for the training of medical specialists.**

Clinics and university departments working in the field of imaging have long faced the problem that **academic functions are mixed with the private sector**. At some places this is the source of serious tension, preventing both improvements and long-term planning.

Teaching materials, textbooks and technical documents – for the subjects they exist for – are available everywhere. The same is true for manuals in the appropriate language in English and German language programmes. At most places, though not everywhere, the material of lectures is made available electronically as well. While several departments and institutes issue their own texts for learning, there is universal criticism that the literature to be studied for an exam is not clearly specified for important subjects such as *internal medicine* or *surgery*. Or, for

example, there is a good textbook for *biochemistry*, also used in the training of medical specialists, but the material applicable to gradual training is not separated.

Occasionally there are several textbooks, and students who are not clear on which of them is accepted might not use the one preferred by the examiner in their preparations for the exam, which, as indicated by the students, puts them at a disadvantage.

The IT systems used by students to register for courses and exams (*Neptun, ETR*) have been causing serious difficulties for years when used by a large number of students at the same time. This situation needs to be resolved, too.