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Dictum

Design of an Integral Curriculum to Undergraduate Medical Education
in Bosnia & Herzegovina

Tempus-Cards Project –European Commission



External Assessment Summary of Bosnia & Herzegovina Schools of Medicine

Summary based on External Assessment Reports
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Introductory notes

The main objective of “**Dictum**” project is to reform the curricula of BH Schools of Medicine to reflect the generally accepted standards in the European theatre of medical education. Achieving this goal is of the utmost importance; as a first step, defining an objective analysis of the present situation in BH Schools of Medicine will serve as a starting point, which will identify the strengths and weaknesses of particular BH Medical Schools and the BH medical education system, in general. Through this process we will identify the appropriate means and ways to enforce the strengths while overcoming the weaknesses, thus aiming the institutions toward the desired common goals.

It was generally understood and accepted before the exercise started, that the objective of an external assessment **was not a ranking or grading of the institutions**. The exercise would generate an objective oversight, serving as **a document for institutional development**, while covering all segments of organization and life of the educational institutions. This would provide a sound basis for formulating coherent strategies and comprehensive development plans.

The preparatory phase

In order to master external assessment procedure, all academicians from the BH Medical Schools (Mostar, Sarajevo, East Sarajevo and Tuzla) and all members of the EU Consortium (Germany, Denmark, Austria and Belgium) attended a two-day workshop focused on training in quality management, as developed by the European Foundation of Quality Management’s (EFQM) “**Model of Business Excellence**.” All participants fulfilled successfully the requirements and were awarded a certificate with a title of “**The Assessor of EFQM**.”

Terms of Reference (ToR)

In general, the task of the external-assessment team (EAT) can be described as:

1. Formulation of an opinion about all features of an institution based on
 - a) self-assessment reports;
 - b) statistical data collected and presented by institutions;
 - c) institutions’ statute, regulations, decisions and by-laws;
 - d) data collected on site through discussions with students, staff and management; and
 - e) data collected through direct insight during fact-finding missions.
2. In depth discussions and working through consensus, as recommended in methodology of European Foundation for Quality Management (EFQM).
3. Writing the final report with recommendations and suggestions aimed at institutional development.

The checklist was posted with instructions to be followed by the external assessment teams (EAT), in order to cover all segments of an organization, the life of the educational institution and to provide a sound basis for formulation of coherent strategy and comprehensive development plans. For this purpose the same set of standardized questions, used for the self-assessment of an institution, were used to facilitate the presentation and comparison of data.

Frames of Reference (FoR)

It is understandable that every expert has implicit ideas about quality of a curriculum, school organization or the quality of graduates. However, those individual frames of reference will differ due to the background and experiences of the expert, especially when compared to the present situation in developed European countries and BH. Therefore, one task for evaluation team members was to make their implicit opinions explicit and to formulate the frames of reference to be acceptable for all.

Against this starting point assessment was done: it made no sense to compare the status of BH and European institutions or even the BH institutions one with another. Therefore, established frames of reference were not to search for an “*ideal curriculum*” or an “*ideal institution*,” but were to **set out minimum requirements** for institutions and graduates.

The ten sections which were analyzed during the External Assessment form were:

1. School mission and objectives
2. The curriculum
3. The management
4. The staff
5. The students
6. Facilities and technology
7. Financial issues
8. International relationships
9. Internal quality assurance
10. Development plans

Check list

At the end of the each mission, the following check list was explored:

1. Are all questions answered?
2. Are all necessary comments included?
3. Are all facts organized in uniformly prepared tables?
4. Are all facts graded with:
1 (poor); 2 (unsatisfactory); 3 (good); 4 (very good); 5 (outstanding)
5. Are all comments scored with:
1 (strongly disagree); 2 (disagree); 3 (undecided); 4 (agree); 5 (strongly agree)
6. Are the appropriate comments and recommendations made to each feature of institution life?
7. Are all data needed for writing final report collected?
8. Is a consensus on all levels reached?

Finally, the team leaders (Prof. Marz in Sarajevo and in Banja Luka, Prof. Horsch in Tuzla, Prof. Sonntag in Mostar and Prof. Verhaaren in East Sarajevo) addressed the responsibilities for final report composition. Each member of the External Assessment Team (EAT) had a responsibility to assess two, three or four sections, not excluding her/his comments and assessment to the other sections. The leader had the responsibility to collect, edit and compose all those assessments and to write the final report with an “**Executive Summary**,” to serve as the basis for further work. The final report contained:

1. Introduction
 - Team composition
 - How were the answers and comments collected?
 - Who was the source of information?
 - What difficulties were encountered?
2. Body of the report
 - Comments and/or opinions given to all questions in 10 sections in questionnaire
3. Conclusions (for each section)
 - strengths and weaknesses
 - opportunities and threats
 - suggested remedy plans, recommendations

External assessments were held in Sarajevo School of Medicine (January 9-11, 2005), Tuzla (January 13-15, 2005), Mostar (16-18, 2005), East Sarajevo (February 1-2, 2005) and in Banja Luka March 23-25, 2005). The teams conducting the site visit were in each of the Schools made to feel welcome. The visits were surrounded by an atmosphere of open exchange and thus, in a rather short time, valuable information could be gathered. Management, students, faculty and administrative staff were all eager to present their story through frank, open and straightforward discussion.

In all schools, External Assessment Team members appreciated highly, the extraordinary frankness and open-mindedness encountered during visits: no difficulty was encountered; everywhere they were met with warm collegial welcome by all levels, and just everybody seemed to understand the significance of reform for their institution. All members of each EAT stressed the openness and enthusiasm encountered in discussion with students. As a result the sites visiting teams felt that they were presented with a rather comprehensive picture.

All reports were written (including the statistics) and sent to the Medical Schools well in advance of 4th Consortium Meeting (with the exception of the Banja Luka report), which was delayed because of objective reasons. Each of the assessments were orally presented during Consortium Meetings by EAT leaders, and discussed and commented upon by representatives of each School (there was no representative from Tuzla University at the meeting). The discussions were impartial, welcomed, and the resulting recommendations served as useful starting points for planned reforms.

Finally, on the end of the section devoted to analysis of External Assessments, Prof. Hans-Guenther Sonntag presented the “**Executive Summary**” composed by him and Prof. Vladimir J. Šimunović. This was generally accepted as a valid and comprehensive insight of the present status of medical education in BH. This is submitted for all interested stakeholders, with full details to be disseminated as needed. The Banja Luka External Assessment Report will be additionally discussed during 5th Consortium meeting, as well as External Assessment Summary.

External Assessment of BH Medical Schools. An Executive Summary.

While making the assessment, we asked each member of the team to independently grade each question; in all instances, we reached consensus, sometimes after a strong exchange of arguments, resulting in appropriate comments being added to each section. An added value was contributed, we believe in the approach selected that allowed for and promoted, “**open-mindedness, frankness and outspokenness.**” We stress this because we noticed, reading many other reports, that the peers tend to be too diplomatic in their analysis and recommendations. We believe however, that only **straightforward reports and recommendations can bring a real benefit to the assessed institution**; vague praises only enforce the “illusion de grandeur” and lead to ill-founded self-satisfaction, which serves nobody.

Section One: School mission and objectives

The Medical Schools in BH do not have explicitly formulated mission statement and explicitly formulated educational objectives. Thus, most of the staff and students are not informed about the main goals and principles of the School. It must be positively noted that in all Schools, the administrations are aware of this fact and intend to change this in the next few months. It is **the recommendation** of our teams that the Schools adhere to this plan, joining the forces under the umbrella of “**Dictum**” project and prepares these documents as soon as possible, since **without a clear mission statement and clear objectives, progress is impossible.**

Strengths:

- The leadership of all Schools determined to start with a real reform of the curriculum.
- The management team has a vision about the objectives of the school and future steps necessary for carrying out these reforms.

Weaknesses:

- No mission statement, objectives of education, nor strategic development plans, exists at this time.
- Communication between management teams and faculty are not satisfactory.
- Students and faculty are generally not well informed about the direction in which change will take place.
- Systems of cooperation amongst stakeholders, regional and local communities and economic organizations on quality improvement, have not been established.

Opportunities:

- Relatively easy to correct.
- Costless, using those human resources at the institutions’ disposal.
- Joint plan for creating a mission statement and formulating objectives of the education and profile of competencies in the frame of “**Dictum**” project.
- Closer orientation toward market requirements is being sought.
- A good working relationship with political decision makers seems to exist.

Threats:

- Resistance from old fashioned teaching staff.
- Resistance from parts of the student body.

Recommendations:

1. Joint activity to draft the missing documents .
2. Their rapid adoption at Schools and Universities.
3. Their dissemination to stakeholders.
4. Use in promotion and public relations in community at large.

Section Two: The curriculum

It is ironic that a similar exercise conducted 15 years ago would have found little fault with the curricula within BH Schools – almost everybody else in Europe had a similar medical curriculum at that time. But over recent years, the thinking on how a medical curriculum should be planned and implemented has changed to such an extent that the term “revolution” seems more adequate than “evolution.” It is important to note that many Medical Schools in Europe have not implemented drastic curriculum reform but it is safe to say that everywhere plans for change are on the drawing board. Thus, it is certainly not too late to start the planning for a new curriculum now, but the implementation of such plans should not be delayed for too long.

The teaching in the School of Medicine, Mostar University is consists of a high percentage of professors from other Medical Faculties (e.g. Split, Rijeka, and Zagreb), and the structure of the curriculum depends on modules/blocks. This kind of teaching is different to the other Medical Schools in BH. Interestingly, the information gained through the interviews indicated that all groups, (students, assistants, and professors) were pleased with such organization of curriculum; and the visiting professors claimed results achieved in Mostar superior in comparison to those in their home faculties.

The EATs found that the Schools’ administrations are well aware of this fact. However, the groups of people planning for change seems very small; too small in fact to make the chance of success for real reform appear high. Thus, it is one of our recommendations that **those groups who are supportive of and planning for change have to be extended** as soon as possible.

The areas in the curriculum that should be considered for change are extensive, but reform of the examination system comes at the top. New teaching and learning methodologies aimed at activating and supporting student learning also come high on the list; the lecture-based approach currently in use is being abandoned all over Europe. Still another focus should be integration of pre-clinical and clinical curricular content and putting more emphasis on the learning of clinical skills. Some changes at the legislative level will be needed, for instance **those governing how many times students can retake an exam** and what are the prerequisites for advancement in the course of study. We recommend strongly the “**year for year**” principle, presently existing only in the Mostar School. Otherwise, due to regular failures of exams, many students miss **coherence between a) what they are taught b) what they are studying c) what they are going to be examined in**; resulting with an unacceptable drop out ratio and an average time of study, being too long.

Criticism was raised by the students of all years concerning:

1. the overload of theoretical knowledge expected by the teachers compared to the short time at disposal for teaching;
2. the students of the clinical years criticized the follow-up of clinical objectives taught: instead of short “**sightseeing visits**” to clinic they would prefer the long term integration into the daily clinical work on the ward or in the outpatient units;
3. wasting time by long waits for teachers, and gaps in the schedule;
4. teachers often does not show sufficient interest in students, there are professors who give lectures but the students have never seen them;
5. lack of teaching materials;
6. unsatisfactory coordination of topics, often no structured teaching;
7. no information about information technologies, poor access to Internet.

Strengths:

- Leadership determined to start with a real reform of the curriculum.
- Faculty with high professional skills in the area of their respective specialization.
- Good and motivated student body.

Weaknesses:

- Little awareness of modern trends in Medical Education among most of the faculty.
- Short “sightseeing visit” to clinic.
- Mostly traditional teaching in all Schools.
- Mostly traditional students’ assessment in all Schools;
- No formative assessment in all Schools;
- Unlimited number of attempts to pass the examination (in Mostar 8 times, during two years of study).

Opportunities:

- **Dictum Project**

Threats:

- Resistance from old fashioned teaching staff.
- Resistance from parts of the student body.
- Needed understanding and cooperation from the Government may not be forthcoming.

Recommendations

The process by which students are chosen for admission to medical school seems transparent, but the university has to accept too many students for the resources available. The admission procedure has to be enforced and the joint discussion in this direction has already started during the previous meetings.

The curriculum emphasizes instruction in theoretical concepts – even in the latter years. As a result students do not get as much clinical exposure and do not learn the clinical skills demanded by current concepts in medical education. A shift to a curriculum with a stronger emphasis on clinical aspects would have the added benefit of giving student motivation a boost.

The modular system of the curriculum corresponds to intended for the establishment of new curricula in medical education; therefore, Mostar School curricula can be stated as a worthwhile example for other Medical Schools not only in BH but in Eastern Europe as well. There are still much room for improvement with the objectives of the curriculum, especially concerning (i) **the preclinical education (2 years)**: with focus on main educational subjects (Human Morphology, Biochemistry, Physiology), (ii) **the clinical theoretical part (1 year)**: focusing on Pharmacology, Pathology, Pathophysiology, Infectology, Human Genetics, Biomathematics, Biostatistics, and (iii) **the clinical training (2 years)**: with focus on clinical training concerning the different clinical objectives for 2 years and a finally (iv) **the clinical practical year**: with an internship involving four months in internal medicine, four months in surgery and four months in a chosen elective.

It would be good to consider, in line to Bologna Process (adopted by 40 European countries) that a state-wide examination will be held after first three years of study (some equivalent to recommended European *bachelor degree* or *United States Medical Licensing Examination, USMLE Step 1*), and another state-wide examination after the clinical training (equivalent to recommended European *master degree* or *United States Medical Licensing Examination, USMLE Step 2*), ending with clinical practical year, which will end with final licensing examination and *Doctor of Medicine degree*. Those are the ideas for careful consideration.

Careful discussions on curriculum content that could be eliminated has to start. For instance, there is nothing wrong about students conducting experiments dealing with the gas laws (Biophysics, first year). But in what ways does this really contribute to the essential education of a future medical doctor?

The present examination system in use at the BH Medical School is known to have glaring weaknesses. There are far too many examinations; try and eliminate some of them. Oral examinations by an individual examiner have low reliability and low validity. The international trend is definitely towards written examinations. Student dissatisfaction with the current examination system is evident, and the single person held examination is not acceptable anymore.

Section Three: The management

Strengths:

In Sarajevo and Banja Luka School, the EAT was impressed with the drive and determination of the management. The only advice in this respect is: you cannot do it alone! It must be strongly noted that the approach taken, not to involve the faculty in many decisions, will ultimately backfire. In Mostar, the top management persons (Dean and two Vice Deans, the Dean and one Vice Dean) are permanently employed at Croatian Medical Schools and therefore, spend a restricted time in Mostar. In East Sarajevo, the EAT is positively impressed by the warm atmosphere and the easy contacts between the management with staff and students; human resources management is highly quoted by the management. The public relations of the management and their willingness to build a strong faculty are clearly demonstrated. In Tuzla, Management has a specific vision of education. Recently, the Bologna Process team has been established at the University with one member from the Medical Faculty.

Weaknesses:

- Part of management is not aware of need for radical reform in education.
- Management does not have an expressed explicit vision for quality control.
- The faculty is not enough involved in the decision making process.
- There is assessment of staff by students, but without any consequences for poorly evaluated professors and other members of staff.
- There is no tradition and no possibility of rewarding or sanctioning faculty members.
- Management does not encourage innovative initiatives by faculty like the work on projects, curriculum reform, introducing innovations in the teaching process, etc.
- A regular evaluation of the management by staff does not exist.

Recommendations:

The management in all Schools are advised to follow Sarajevo's example of how to generate the additional income for the School, and East Sarajevo's example of how to generate workplace atmosphere and efficiently transfer the responsibilities to junior staff members.

At least the top three to four positions of the Medical School (Dean, Vice Deans) should be held by persons permanent in Mostar and in East Sarajevo. In all Schools, there should be at least one or two coordinators, with permanent positions, to coordinate all affairs concerning teaching and research. Besides the existence of a well functioning medical education this would certainly lead to (i) a stabilization of the organization, (ii) efficient funds acquisition, (iii) development of scientific structures and groups, (iv) better cooperation with the clinics and (v) effective representation in the society; *all of which are the basic requirements for the establishment of a nationally and internationally well acknowledged Medical School.*

Include faculty and students more in the decision making process, find a way to reward staff members who will be involved in reform of the curriculum, maintain the positive working atmosphere.

The regular assessment of the management team by the faculty need to be introduced and professional assistance recruited when necessary, especially for international cooperation and marketing.

Section Four: The Staff

The Schools in Sarajevo and Tuzla have quite a number of professors and assistants but most of them are not using modern approaches to teaching and new teaching methods; in Mostar and East Sarajevo, visiting professors dominate. There is some difference in the opinions of the pre-clinical and clinical staff toward the reform of curriculum and how to conduct the teaching process in the future. The clinical staff - at least at the head of department level - has a vision and a positive attitude towards reform. Most pre-clinical professors, however, are not for radical change. But both clinical staff and pre-clinical professors generally have a good opinion about the current teaching environment.

There are still problems with employment criteria and involvement of the staff in the decision making process. Unfortunately, in almost all regional institutions, knowledge and the skills of possible employees are not the only criteria for employment. Good connections with political and local authorities make finding a job much easier. Most staff members are not involved in the decision-making process and are not consulted even about important issues. There is also

a lack of permanent and well-structured quality assessment procedures for considering the quality of work done in the Schools. The Schools are supporting (except in Mostar) the daily allowance and travel expenses to everyone who is attending a conference in order to give a presentation. The members of the teaching staff who are involved in curriculum reform are not rewarded or stimulated.

Strengths:

- The teaching staff of all Schools has a rather high scholarly and scientific level of competence.
- Many young assistants work in Sarajevo, East Sarajevo, Banja Luka and Tuzla.
- Excellent development programs for basic science in East Sarajevo and clinical science in Tuzla and Sarajevo.
- High satisfaction with working environment in East Sarajevo and Mostar.
- Postgraduate education (mainly in clinical fields) in EU in Tuzla and East Sarajevo

Weaknesses:

- Communication between teaching staff and the management team needs to be improved in all Schools.
- Promotion to higher faculty ranks occurs too rarely.
- Promotion criteria are not demanding enough (publications in non-indexed and non Current Content journals)
- There is no evidence that younger teaching staff is included in reform of the curriculum and decision making processes.
- No systematic encouragement for a continuing career in academic medicine.
- Part of the teaching staff seems unable to understand the need for change and thus will resist.
- Not enough consultations between teaching staff and management on tasks and responsibilities at all levels.

Opportunities:

- Exchange of staff on national scale
- "Shared employment concept."
- Education possibilities in EU.

Recommendations:

For the further development of the Schools (especially in Mostar and East Sarajevo), the support of graduated medical students as well as of the already existing (junior) staff **is decisive**. All options should be explored; perhaps financial sponsorship, international contacts, applications, for international research grants etc; all opportunities have to be taken into account to improve this situation. Mostar and East Sarajevo Medical Schools are just comparable to a normal teaching school; they will not survive as Medical Schools if research will not be established very soon. As a first step there should be installment of a responsible person in the position of vice dean for postgraduate education to work exclusively on human resources and development issues.

Education of "core staff" in new teaching methodology (three well-motivated junior staff members from each School) will take place between July 4-8, 2005 in Heidelberg, under the frame of "Dictum" project. Here it is worth mentioning that Heidelberg University, which

sends its “core group” to Harvard to be educated since 1999, paid dearly for the training, and as a result from the process, this core group retrained 150 members of the Heidelberg staff. This training the BH Schools will receive free of charge, only with obligation to continue with training their fellow teachers at home.

Beside the training in new teaching methodologies, the plans of education should be strictly formulated and precisely followed; those who have no interest have nothing to do in an academic environment. Granting opportunities which exists in the EU should be used intensively and regularly, and there is an opportunity to develop the joint research grant proposal in BH.

Regular exchange of teaching staff is highly recommended, as well as joint research. The innovation, work on the curriculum development and extracurricular work has to be praised, supported and rewarded.

Section Five: The Students

Position of students:

We owe our compliments to the students for their open-mindedness and outspokenness. In all of the discussions the EATs had with students, there was a positive atmosphere aimed to solve the problems, not to criticize for criticism’s sake. Generally, students from preclinical years in Sarajevo, East Sarajevo and Tuzla consider the large subjects of the first three years of the curriculum to be problematic. In some exams only a few percent of the students pass and many try to pass **up to or even more than 10 times**: the number of tries is not limited (except in Mostar) and one can try up to the retirement age.

Some students indicate that there may be a problem both from the students and from the teachers’ side. Some students may need to work in order to support their living and may thus not have enough time for studying. Other students say that fellow students did not prepare properly for lectures. Due to regular failures at exams **many student miss the coherence between a) what they are taught b) what they are studying c) what they are going to be examined in.**

Students argue that they have passed a tough admittance exam and that they are amongst the best from their high schools and they do not understand the low passing levels. They feel that the level of details required in several topics is too high and that the expected way of answering exam questions are very close to the writing in the text books. Also, some students indicated that they were told everything in the text book was equally important; they also indicated that they were missing assistance in understanding the priorities of study.

Anatomy and pathology, amongst other subjects, were mentioned as the main problem topics. Among students of the “clinical” years of study, the opinions were less critical.

Position of teaching staff:

When asked about the low passing rate, it appears as though many teachers do not identify any problem and as a result, have no intention of changing anything radically. They claimed with some sense of pride that those subjects in question are “difficult” ones and have to be learned in the same way they have been learned traditionally in the past.

Strengths:

It is a clear strength that all Medical Schools have many very active and highly skillful students. The Schools (especially Sarajevo and Tuzla) have proven its capacity to foster many doctors that find very good positions, both in and outside the country. As a result of the interviews with the students, it is clear that a high degree of interest in constructive discussions on reforming the curriculum is wanted and supported. The admittance test seemed an appropriate tool to effectively select skillful students, but EATs have had not much opportunity to speak with the students in trouble, therefore such judgments must be given with caution.

Weakness:

- Students have to learn far too many facts and far too few clinical skills.
- No opportunities for student research.
- Too little opportunity to gain clinical experience.
- Students spend a lot of time traveling between the different facilities.

Opportunities:

Given the rather large number of skillful students and a strong tradition for high quality education, it seems that important curriculum improvements are possible without having to make unrealistically large and new investments. Such opportunities would be realistic, provided the necessary interest for participation in curriculum reform could be mobilized among the faculty and staff. It appears that the students would see curriculum reform as a positive development.

Recommendations:

Students are quite effectively included in the teaching system as a whole and are very active in making their intentions and plans clear. This self-confidence may have its background in the very successful selection of students applying to the Medical Schools. It is our impression that there are a high percentage of students who would be able to start an academic career after graduation. Those students should be supported, especially with the **introduction and integration of research work during the two or three last years** of their medical education.

As compared to international standards the number of **teaching hours per week is too high**. A reduction in the number of contact hours will provide more time for teachers to work with didactic issues and allow more time for students to have self-phased and “deep” studying.

A process of a student’s progress, documentation and follow up is quite good in all Schools, although some improvements are possible (introduction to the appropriate software for “Students’ Affairs Offices,” now in process of implementation only in Banja Luka). It is an open opportunity to improve exams by introducing objective multiple-choice exams and formative assessment in formalized way. In such a manner, the students’ academic problems will be easily noticed in time and processed effectively in a systematic and well-structured way. A formal structure, maybe appended to Students Affairs Office, should be organized not only to notice the students in trouble, but to act and assist them in an appropriate manner, when there is the time for intervention.

Establishing of **“Student Counseling Office’s”** is highly recommended. Also, the students’ personal problems should be addressed in a more systematic way and Schools are advised to follow tutorship models established in East Sarajevo. New entrance criteria have to be

developed, if possible, jointly for all BH Schools and especially with new, transparent transfer criteria.

Students' exchange programs have to be established, first on national and then on international levels. Tempus International Mobility Grants (IMG) should be intensively used. The same is true for summer clinical practices abroad. So far, Mostar has explored this opportunity and approximately 70 students have spent clinical practice in Germany and Ireland. For this academic year, such opportunity will be offered to all BH Medical Schools.

Section Six: Facilities

In Sarajevo it was the general impression that many of the staff was rather satisfied with the rooms and facilities, although some did express wishes for improvement. Seen from an educational perspective, students in Sarajevo have many rooms and much space for teaching. Only recently computers with Internet connection were acquired and there was still not a functional culture for using the Internet to support and enhance campus-based teaching and learning.

In East Sarajevo, new Basic Science building is under construction and is partly functioning. EAT was informed by the management that they expect it to be finished in this year. After finishing the basic sciences building facility, conditions will be improved, but still clinical parts will remain insufficient. Telecommunications and information technology is also insufficient; Internet is not available 24 hours for all students, but only for the staff, student representatives and for other students with special permission. The distance learning facilities do not exist. A slightly better situation exists with the library, but a bookstore does not exist in the town with the exception of a small part of the library, which is very limited to few medical textbooks.

In Mostar, the facilities for teaching are not optimal. Especially for lectures and practical courses of the preclinical and clinical theoretical parts of the education, the laboratory equipment is reliable and functional; there are also clinical skills lab facilities and computers for computer-based learning. The situation will certainly be improved when the Basic Science building, now under construction, is finished, but the clinical part will remain insufficient.

In Tuzla, the number of classrooms and laboratories in preclinical teaching is small in relation to number of students. One of the reasons for such situation is the overloading of space with high numbers of students; what is augmented by the fact that several different institutions use the same spaces. It is worth considering the establishment of a clinical skills laboratory. Laboratory equipment can cover almost all the requirements of teaching processes; some of it is too old and out of function. In the library, allocated space to, and numbers of books and journals is unsatisfactory and has to be improved. Distance learning equipment should be installed at the faculty and should be used more frequently. The existing bookstore at the faculty is not satisfactory, and book collections have to be improved.

In Banja Luka, the School has a big problem with space. The main facility is situated in a building which was not designed for the school, several departments are situated in barracks build in 1968 for earthquake refugees, laboratories are equipped with old equipment, and clinical facilities are situated a long distance away from the main school building. The clinical facilities are very good. Internet is available but there are not enough PCs for students. Every one on the teaching staff has an Internet connection. The library facilities appear limited but

are well organized. It was a pleasant surprise to find well functioning distance learning amphitheater.

Recommendations:

In all Schools, in accordance to new curriculum in which integrated teaching will prevail (hopefully), research activities will be developed, with special attention being given to the use of **multipurpose teaching and research laboratories**. The sound agreement among the Schools, to develop and concentrate joint efforts in lab development will lead to much more effective use of scarce resources.

Research laboratories have to be established **around long-lasting research projects**, not around individuals and should be shared at least on institutional levels, if not on national levels.

It is recommended that steps be taken **to implement an e-learning platform** for use by both students and teachers. Any of the available computers may be used to build an open source server with open source e-learning facilities. To support such an initiative apart from the network and hardware, the work of an interested person (maybe a student) skillful in the Linux environment, will be needed, but no software licenses need to be purchased. Administrative support to keep the on-line materials up-to-date is of course required as well. As a minimum service students should have access via the web to learning objectives, course descriptions and logistics, exam dates, exam test questions, and links to relevant literature, Medline and accessory learning resources.

The partners and “**Dictum**” Consortium members from Aarhus University, Denmark, Professor Dørup and his team developed such a platform and it is available for testing. Use of this platform will significantly influence the teaching philosophy at BH Schools and facilitate inter-Schools cooperation. Moreover, the **distance learning facilities** and equipment were provided through a „**Dictum**” grant for Sarajevo and Mostar Schools installed, functioning smoothly. In East Sarajevo such a facility was acquired through another project, as well as in Banja Luka, and in Tuzla such a facility exists at the University level. Intensive use of such facilities is recommended.

The last recommendation in this section is the establishment of **joint database on teaching resources**, including textbooks, monographs, journals, CD/DVDs, videos, educational software, etc. Sharing the resources will increase the teaching power as a whole and it can be expected that BH partners in the European Union and overseas will give assistance. Furthermore, a joint **office for printing, publishing, software production** would be advised.

Section VII: Financial issues

Collecting the data about the financial issues at Schools of Medicine was easy; all data was collected by School management and presented in a table. Some minor inconsistencies were clarified in discussion with the heads of financial departments. This statement is not related to Tuzla School, because of specific financial circumstance where all funds are centralized at the University and the management was not able to prove itself in any financial segment. There are claims that a small part of the budget (1-2%) is generated through research projects and scientific activities, but proper indicators are lacking and statements are contradictory; even such income generated, is directed to the University.

East Sarajevo management claims that about 80% of regular income is received from state authorities, which cover the salaries. Inside generated income is 20%, which covers all other sections of the budget. The similar situation is in Banja Luka, state cover mainly the salaries and all other costs have to be covered by other sources. For comparison, at Zagreb School of Medicine income internally generated represents over 23%, in Sarajevo 35% and in Tuzla University School of Medicine again about 35% (note, no evidence was offered), and in Mostar only 1% of the budget. Tuition participation in the budget is small and covers approximately 2% of annual budget in East Sarajevo and Mostar, and approximately 8% in Sarajevo.

In all Schools there is the claim that income from research projects is 1-2%, but exact data does not exist. There are no allocated funds for scientific work and research in the budgets, the participation in scientific conferences is supported. There is an estimation for annual cost per student in East Sarajevo of about € 2,008, (in Sarajevo € 2,328; in Mostar € 2,125; and € 4,975 in Zagreb), data from Tuzla and Banja Luka were not presented.

Although all managements could demonstrate a relatively stable financial situation over the last five years, the members of the external evaluation team could not find financial issues in a strategic policy document since it did not exist. Also, everywhere there was a poor balance between salaries and staff performance, as staff is paid according to their position and not according to their performance level. The ability of the management to generate additional income has to be praised in Sarajevo and East Sarajevo.

Strengths:

Making the loose ends meet under difficult circumstances and extraordinary activities directed to self-financing, especially in Sarajevo and East Sarajevo

Weaknesses:

- Poor and insufficient use of international funds.
- No funds generated from research and scientific activities.
- Poorly defined financial policy, which does not lead to a good balance between salaries and activities.
- Staff is paid according to their position, not according to their performance level.

Recommendations:

It seems that the financial indicators are just used for formulating institutional policies. A **clear cut budget plan for every year** and the transparency of financial measures is therefore recommended by the external evaluation team.

A **joint decision on tuition policy** for all BH Schools could be recommended, which then would have to be strictly followed. The separate funds for support of research activities at Schools has to be established, even in the smallest possible amounts. Another separate fund has to be established for human resources development.

In processes of implementation of curriculum reform, a new financial approach will be suggested to all medical schools and this know-how should be applied in local environments. Further, each of the schools has the number of experts in a number of fields, which society needs badly and it appears that many of those **talents are, if not wasted, but not exploited properly** for the benefit of the Schools and themselves. There is a real opportunity to generate

additional income through expertise and organization of postgraduate and doctoral studies, as well as continuing medical education.

Further, introduction of measures that **encourages good students** and discourages bad students through advanced tuition formula is a “must.” Generation of additional income through publishing and printing activities is a reality, as well as imposing strict rules on research activities. Such generated income should be used in a transparent way; otherwise the motivation of staff will significantly decrease.

Finally, much more attention should be paid to **application for grants available** in the European Union; this has to be done in a systematic way, with professionals and experts working exclusively on project proposals. There is no need for further explanation, if one knows that there are 18 billion euros at yearly disposal, distributed by 450 granting foundations. It is sad but true that a significant amount of funds, directed exclusively to BH was unused, because of the lack in good projects.

Section Eight: International dimension of the institution

External-assessment team members (EAT) gave a high grade only to the participation in international conferences, which is satisfactory under the existing circumstances. There is no participation in Student Mobility Schemes or organized summer clinical practice abroad (except in Mostar). There is no systematic support for project preparation and the production of internationally recognized papers is unsatisfactory – recent staff publications were mainly published in local or regional journals (Serbia, Croatia). A systematic database on all publication activities does not exist.

In Sarajevo there is no international teaching staff at the University, only three of four expatriots placed now in Western Europe or the USA who gave lectures. The situation is better and teaching activities from internationals are more vivid under the auspices of the University Hospital; still this teaching is aimed mainly at postgraduate and postdoctoral programs or happens in the frame of continuing medical education (CME). The activities of the Centre for Research at University Clinical Centres in Sarajevo and in Tuzla deserve to be highly praised. There is a cooperation agreement between the Ljubljana University and Sarajevo; Belgrade University and East Sarajevo, and all Croatian Universities and Mostar, which have also the official cooperation agreements with Heidelberg and Semmelweis University, Budapest. It is not possible to judge the real scope of cooperation, but it seems that very few existing opportunities are used effectively. There is no evidence that the staff members were invited to participate in international working groups or committees.

Strengths:

- Intensive international communication.
- The number of cooperative projects.
- Management is supportive of active participation in international conferences and,
- to participation in joint projects, with the excellent example of the support given to “Dictum” project.

Weaknesses:

- Lack of support for the preparation of project proposals.

- Existing opportunities for international cooperation is not being used sufficiently.
- Not enough self-generated projects are being proposed.
- No detached funds for support of the Bologna process.

Opportunities:

- Spreading the network of cooperation amongst partners.
- Active use of funds aimed to support the implementation of the Bologna Process.
- Closer cooperation with other BH universities will lead to added value and new strengths.

Recommendations:

Cooperation and communication, as well as exchange with the international academic community nowadays is a necessary requirement for “benchmarking” measures of the quality of teaching and research at any School. Cooperation of academic institutions today, are mainly based on a network in research, is supported by the EU through special scientific programs.

The Medical Schools in BH were already successful with two of those projects and there should be more (financial and administrative) support given to continue these activities. As a consequence of those projects, the communication with Western European Universities increases (e.g. Dictum partners: Aarhus, Gent, Heidelberg, and Vienna) and forms a sound basis for further projects. The stronger cooperation amongst the Medical Schools in BH, combined with common efforts in this field (e.g. establishing of a joint office for international affairs) will lead to stronger representation in the international academic community, with more power for fund raising.

Establishment of “generalist” BH journal in English, with joint School ownership, will dramatically change the international position of the Schools (to follow closely the experiences of Croatian Medical Journal). Certainly, all Schools will benefit from closer teamwork with other BH universities, strong and sincere cooperation will lead to added value and new strengths.

Section IX: Internal quality control

There is a regular internal evaluation of the teaching staff by students only in Mostar and sporadically in other Schools. The results are made public during the sessions of the Faculty council, and the teachers are informed in detail about the results. There was no clear answer about possible consequences according to evaluation results.

Judging the requirements to run the self-assessment procedure, the organization was excellent in Mostar and in Tuzla; far less successful in Sarajevo, Banja Luka and East Sarajevo. Still EATs cannot neglect the fact that 815 questionnaires were answered and collected; high numbers of replies from the stakeholders, point out to the existence of a surprisingly high quality of assurance culture.

Strengths:

- Excellent database of students’ progress records.
- Regular evaluation of teaching in Mostar.
- Sufficiently organized maintenance of laboratory equipment.

- Sufficiently organized maintenance of facilities.
- Sufficiently organized maintenance of information technology.
- Building and strengthening the curriculum reform efforts through the Dictum project.

Weaknesses:

- Lack of official records on staff's research grants.
- Lack of official records on staff's publications.
- Lack of official records on students' employment after graduation.
- No regular evaluation of teaching processes or systematic measures to enhance them.

Opportunities:

Relatively easy and costless way to correct noted weaknesses.

Recommendations:

Internal Evaluation in the Medical Schools is already strong and has well recognized parameters, which certainly strengthens the position of the Medical School according to the quality in teaching. Therefore, it would be easy and a costless way to follow the Mostar example. Also, there should be regular evaluations of the students by the teachers and the extension of the evaluation on problems concerning the training of the staff; this evaluation should be applied to the whole field of research, like numbers of grants, amount of soft money for research, as well as the number of publications published in peer reviewed journals to complete internal evaluations and quality control measures.

Section Ten: Development plan

There is only a plan for the curriculum development introduced as a result of the EU project **Dictum**. There is a lack of a development plan which includes all essential parameters of modern Medical Schools anywhere, like priorities in scientific projects, cooperation with the University Hospitals, progress in financial development, support of staff and students, just to mention some. All Schools' management claims that development plans exist at "university" levels; all EAT members believe that this is not good enough and that specific development plans, based and linked to university ones, should be created with much more attention. It is our general impression that until now, management of the Medical Schools reacted to daily problems without any long term strategy plans.

Strengths: No strengths

Weaknesses:

There is a lack of officially developed, **stakeholder accepted and approved** plans in all sections.

Opportunity:

Relatively easy and costless way to develop all other plans and correct noted weaknesses

Recommendations:

Members of the Medical School had the possibility to participate at **European Foundation for Quality Management (EFQM)** seminar for assessors' training in October 2004 in Heidelberg. During this seminar, all important methods needed for the establishment of high

quality management as a requirement for a successful Medical Faculty, was taught and trained.

On the basis of these acquired skills, demonstrated through **EFQM's** Model of Excellence, which includes the parameters: leadership, people, policy and strategy, partnership and resources, processes, people results, customer results, society results, and key performance; a **working group should be established** (composed of a trained core group). Their work should lead to the creation of all required development plans. Those development plans should be discussed at large by all stakeholders and then accepted by the Faculty Boards and finally approved at University levels.

Conclusion: What is the capacity for change of the institutions?

All External Assessment Team members came away from the visits feeling that the potential for change certainly exists everywhere: Faculty, Students, and Staff are **all doing admirably well given the difficult situations.**

But the premise of the **Dictum** project is different. It does not suffice to do better and improve what we are already doing; we must **change** what we are doing. Change is always difficult because of the uncertainties surrounding it.

But change is not an adventure to be stumbled upon blindly; it can be prepared. It is our recommendation to implement the steps outlined as soon as possible and to widen the circle of faculty involved with the **Dictum** project. If this goes well, the institution has proven its capacity for change and the task of real curriculum reform can be undertaken with confidence.

All members of the EAT extend their thanks to the BH Schools of Medicine for their hospitality but more importantly for their trust in us by sharing their hopes and their worries. We hope this report will be of help on the difficult road of reform. We shall be happy to help also in the future.