

Mostar University Medical School, Bosnia and Herzegovina: First Graduates

Colleagues of mine who work in medical communities outside of Mostar region frequently ask me why we established Mostar Medical School, whether it would not be better for these 40-45 students per generation to attend larger medical schools elsewhere, where they might have better academic conditions, and then return to their people after the completion of the studies. My answer is simple – No, because few of them come back to work and live in Bosnia and Herzegovina (BH), especially if they studied in Croatia (1). It is, therefore, plausible to expect that the students who complete their studies in Mostar, spending one of the most exciting periods of their lives right there, will decide to stay and work in the county.

Another opinion I often hear is that having only 40-45 students per generation will not solve the problem of the lack of physicians in due time. According to Šarac et al (1), the physician-to-population ratio among Croats in BH was 1:969 at the end of the 1991-1995 war. In comparison with the ratios in Croatia (1:465) and the rest of the world (1:400) in the given period, there is a clear shortage of physicians among the BH Croats. However, the Medical School in Mostar has been founded not only to produce physicians, but also to raise the overall quality of health care in the region. Moreover, a good medical school and high quality health care might even attract physicians who studied elsewhere to come to live and work in the region.

The idea of founding a medical school in Mostar first appeared in the late 1970s, when medical schools were being established throughout Yugoslavia; however, unlike the cities of Tuzla and Banja Luka, Mostar was not given green light to do it at the time. It was only in 1992 that a small group of academic teachers, mostly born in the CCHB region and working at the Zagreb University School of Medicine in Croatia or Sarajevo Medical School in Bosnia and Herzegovina, began making serious plans to found a medical school in Mostar. Indeed, early April of 1993 brought a meeting in Čitluk and formation of the Initiative Board, whose main task was to establish the School. The meeting was acknowledged and attended by several high government officials, church representatives, and highly acclaimed academics from Croatian medical faculties and the Croatian Ministries of Health and Science. Due to the war, our efforts soon came to a halt, but in 1996 a group of teachers and physicians initiated again the establishment of a medical school, this time with financial support from the BH Croat health institutions. We created a

detailed Proposal for Founding the Medical School, which contained the preliminary curriculum, names of lecturers, financial structure, facilities that could be used, and other necessary elements. After a short period of lobbying for support from other important BH and Croatian institutions, the founding ceremony of Mostar Medical School was finally held at the Mostar University Rectorate on April 18, 1997. The event was attended by high representatives of the Croat Community of Herzeg-Bosnia government, relevant ministries of the Federation of Bosnia and Herzegovina, City of Mostar, Croatian government, Croatian universities, and Croatian medical schools. Prof Filip Čulo was appointed the Dean, and Profs Ljubo Šimić and Vladimir Šimunović became Vice-Deans for Curriculum and Science, respectively. The members of the Initiative Board were the first official teachers at the Mostar Medical School. The priority of the School officials was then to define the curriculum, organize the admittance exam for the first generation of students, and elect the teaching faculty for the first year of studies.

Curriculum

While making the Curriculum, we kept in mind that, during the six years of studies, students should gain knowledge of basic medical sciences, acquire good theoretical and practical knowledge of clinical medicine to be able to provide competent care for patients, and grasp the elementary education in public health to be aware of the importance of preventive medicine and patients' education. We studied the curricula of many medical schools around the world, from the curricula in Austria and Germany, to those in Eastern Europe, Francophone and Anglo-Saxon countries, to curricula of the strong science-based medical schools such as Oxford, Cambridge, Harvard, and Yale, as well as the so-called reformed schools like McMaster's in Canada and Maastricht in the Netherlands (2-5). We paid special attention to the curriculum of Split Medical School in Croatia (6), since this school was of similar student capacity and had become independent from the Zagreb University School of Medicine only a year before our School was founded (7). We tried to take the best from all these curricula and incorporate it into Mostar School curriculum, provided it was applicable to the situation in Mostar.

Since most of our lecturers are guest-teachers from other medical schools, mostly from Croatia, block-lectures are still the only option for organiza-

tion of classes. However, such program – followed also at Harvard and many other respectable medical schools – enables students to focus on the subject they attend and thus increase their chances to pass the examination. We also managed to organize elective courses, but did not take the approach of the so-called reformed schools, where the functional units (modules where students learn about particular organ systems) replace traditionally taught subjects at medical schools (3). We felt that this method was not sufficiently affirmed at the time.

First Year

During the first two and a part of the third year of the studies, our students have to attend mandatory courses in basic medical sciences, such as anatomy, histology, physiology, and biochemistry (Table 1). The first course is Introduction to Medicine, where students are taught on the basics of the first aid, patient care, patient-physician relationship, and medical sociology. The courses that follow are the Scientific Methodology and Informatics (which includes a short course on efficient studying), Cell Biology and Genetics, Histology and Embryology, and Anatomy, which are all very similar in content to the corresponding subjects at Croatian medical schools.

Second Year

Chemistry and Physics are taught on the second year, when students already have some knowledge of the human body and basic medical subjects. Chemistry is taught together with Biochemistry, and Biophysics is taught within a major part of Physiology (a small part of Physics is taught on the fourth year within Radiology and Nuclear Medicine course). Such a concept allows studying of pre-medical courses in the context of medicine, adding to the medical applicability of this knowledge. The remaining part of Physiology (about one third, including Digestive system, Metabolism, and Endocrinology) is combined with similar biochemistry subjects in the course Physiology and Biochemistry of the Metabolism of Foodstuffs. The Basics of Neuroscience, Immunology, and Medical Psychology are similar in the content and performance to the corresponding subjects at Zagreb and Split Medical Schools. After the completion of these subjects, students choose one of the two currently offered 30-hour elective courses (Minor Elective Courses; MEC): Molecular Basis of Medicine and Physiology of Sports. A course in English (a total of 120 hours) is primarily targeted at understanding medical literature written in English.

Third Year

The third-year courses are almost identical in their content to those taught at the Zagreb University School of Medicine in Croatia: Pathology, Pathophysiology, Microbiology, Pharmacology, and Clinical Propedeutics. Psychiatry is now also a third-year course. We moved it from the later years because it fits better with the subjects in the third year.

Fourth Year

The fourth year starts with Radiology and Nuclear Medicine (including 30 hours of Physics remain-

Table 1. Mostar Medical School curriculum (total 5530 class hours)

Courses	No. of hours
First year (total 765 class hours):	
Introduction to medicine (including Medical sociology, First aid, and Patient care)	90
Scientific methodology (including Medical informatics and Methods of learning)	90
Cell biology and genetics	180
Histology and embryology	135
Anatomy	210
English	60
Second year (total 795 class hours):	
Biochemistry and medical chemistry	180
Physiology and Biophysics	180
Physiology and Biochemistry of the metabolism	150
Basic principles of neuroscience	100
Medical psychology	45
English language II	45
Immunology	50
Elective course	30
Third year (total 765 class hours):	
Microbiology (Bacteriology; Parasitology and mycology; and Virusology)	95
Pathology	210
Pathophysiology	135
Pharmacology	135
Clinical propedeutics (Internal medicine, Surgery, Neurology and psychiatry, Dermatology and venereal diseases, and Infectious diseases)	90
Psychiatry	100
Fourth year (total 1040 class hours):	
Radiology and nuclear medicine	130
Internal medicine I (Cardiovascular diseases and hypertension, Pulmonology, Gastroenterology, Nephrology and urinary tract, and Toxicology and Internal medicine emergencies)	240
Internal medicine II (Endocrinology and metabolic diseases, Hematology, Oncology and Clinical immunology and rheumatology)	180
Neurology	100
Skin and venereal diseases	80
Infectious diseases	120
Elective course	30
Field practice – internal medicine	120
Fifth year (total 945 class hours):	
Surgery I (General surgery, Surgery of digestive tract, Thoracic surgery, Cardiovascular surgery, and Urology)	170
Surgery II (Neurosurgery, Pediatric surgery, Anesthesiology, reanimatology, and transfusiology, Plastic and reconstructive surgery, and Surgery in emergency situations)	145
Gynecology and obstetrics	200
Diseases and injuries to the locomotor system (Orthopedics and traumatology and Physical medicine and rehabilitation)	130
Ophthalmology	70
Head and neck diseases and surgery (Ear, nose, and throat and Dentistry and maxillofacial surgery)	110
Field practice – surgery	120
Sixth year (total 1140 class hours):	
Pediatrics	200
Forensic medicine	50
Physician and the society (Social medicine, Medical ethics and human rights, Management, financing, and health policy, and History of medicine)	120
Health ecology and occupational medicine	90
Epidemiology and statistics (General epidemiology, Epidemiology of communicable diseases, Epidemiology of non-communicable diseases, and Statistics)	80
Family medicine (Family medicine, Prevention and promotion, and Geriatrics and caring for the terminal patient)	180
Major elective course	60
Graduate thesis	265
Graduate exam	100

ing from the second year), and continues with Internal Medicine. Because of practical reasons, the Internal Medicine course was divided into two parts: Internal Medicine part I (the major part of classical internal medicine) and part II (includes oncology, which is a sub-specialty within the Internal Medicine in Bosnia and Herzegovina). Since Internal Medicine is a very extensive subject matter and requires a large number of teaching hours (and oncology only adds to this), the division into two parts enables students to pass the course more easily. Furthermore, having in mind that most of the teachers are visiting professors, this facilitates the organization of the courses. Dividing the Internal Medicine course, as well as Surgery, into two or three separate subjects is common in French-speaking and Benelux countries (2). After the courses in Neurology, Dermatovenereology, and Infectious Diseases with Clinical Microbiology, at the end of the school year the students choose one of the three MEC subjects.

Fifth Year

The fifth year starts with Surgery, which is divided into Surgery I and Surgery II. Surgery I covers mainly General Surgery, whereas Surgery II deals with various surgical subspecialties, including Anesthesiology with Reanimation and Basics of Transfusion Medicine. Gynecology with Obstetrics, Locomotor System Diseases (includes Orthopedics, Traumatology, and Physical Rehabilitation Medicine), and Head and Neck Diseases (includes Otorhinolaryngology, Maxillofacial Surgery, and Dentistry) follow after the Surgery courses. Ophthalmology is being taught as a separate subject, the last in the fifth year. We are currently considering the possibility of introducing an additional MEC at the end of the fifth year.

After the fourth and the fifth year, students undergo three-week summer trainings in internal medicine and surgery, respectively. The training can be done at the Mostar University Hospital, as well as in other hospitals and health centers with internal medicine and surgery departments in the wider Mostar region.

Sixth Year

During the sixth year of the studies, classes begin with Pediatrics, followed by Forensic Medicine. After these two courses, students attend a subject called "Physician and Society", which includes Management in Health Care Systems, Social Medicine, History of Medicine, and Medical Ethics and Human Rights. The courses that follow are Health Ecology and Occupational Medicine, Epidemiology and Statistics, and Family Medicine. The course in Family Medicine is organized and executed (similarly to Family Medicine courses at other medical schools in Bosnia and Herzegovina) by teachers from the Medical School of the Queen's University in Kingston, Canada, where a worldwide-renowned way of teaching this subject was developed (8-10). Hereafter, students take the Major Elective Subject (60 hours); in academic year 2002/2003 students could choose between the course in Skeletal and Muscular Diseases and the course in Emergency Medicine. Subsequent-

ly, students start working on their graduation thesis (the subject of the thesis must be approved before the beginning of the summer semester), which they defend in front of a three-member Committee. The graduation thesis must be a small proprietary scientific research, which requires knowledge of informatics and statistical methods, as well as epidemiological methods. Once the graduation thesis is defended, the student must pass the graduation exam consisting of 50 multiple-choice questions from clinical subjects (same as at the Zagreb University School of Medicine in Croatia). To a minor extent, the students' grades earned at the summer trainings and elective subjects are also included in the final grade at the Graduation Exam.

Organization of Classes

The organization and execution of seminars and practical work are similar to those at Croatian Schools of Medicine (11).

The equipment at the Laboratory Center, ie, the quality of the practical work and exercises in some courses, is excellent (e.g., Cell Biology and Genetics), partly because the visiting professors bring along the necessary equipment from their institutes. In other subjects, the achieved quality of practical work is comparable to that at medical schools in Croatia (Histology and Embryology, Physics and Physiology, Medical Chemistry and Biochemistry, Basics of Neuroscience, Immunology, Pathophysiology, Pharmacology, and other). For these classes we managed to organize two computer rooms and a microscopy room, but we still do not have anatomy dissection room and cadavers. To compensate for this, we organized one-week student visits to the Rijeka University School of Medicine in Croatia, and procured plastinated models of anatomic structures and computer simulation programs. The Pathology classes fall behind the level of the classes at the Croatian medical schools, primarily due to the fact that the Mostar University Hospital does not perform autopsies of the deceased (although there is an excellently equipped dissection and microscopy room), as well as lack of pathohistological preparations. We experimented with two-day student trips to Sarajevo, but this option was abolished since it did not yield any significant improvement in the classes.

Despite the integration of premedical and clinical subjects, premedical classes are still not taught in the best possible way, one which would put the emphasis on the contents applicable in medicine. This could be improved, in particular after we will have the majority of local teaching staff employed.

Clinical practice is based, as in the majority of schools, on student education at hospital wards – the so-called clinical clerkship. Students work at particular clinical (hospital) wards for several weeks (same as at medical schools in Croatia). A common drawback of this form of teaching is that students are often left to themselves and do not profit enough from the practice as they would if teachers worked more with them. We will try to avoid this problem by creating catalogues of skills which students have to master in

each department/course, similar to the one in Split Medical School (11). This scheme will be applied from the beginning of the next year. Also, night calls within Surgery, and Gynecology and Obstetrics courses will become mandatory, as well as work in polyclinic outpatient units. The course in Family Medicine takes place in the Center of Family Medicine within the Mostar Health Center, where both theoretical and practical parts of the course are taught.

For the purpose of lecturing, the textbooks published in Croatia are almost exclusively used. Unfortunately, we have not yet introduced problem-based learning, except for a single elective subject, because we have no teaching staff trained in problem-based teaching methods. However, we plan to bring experienced teachers and assistants from Zagreb Medical Faculty to train Mostar Medical Faculty in problem-based teaching.

Furthermore, many subject integrations, even horizontal ones, are more formal than real, and therefore can easily be lost as has happened with integrated Anatomy/Histology course.

Teachers

There are four Medical Faculty members employed as full-time teachers, 5 research fellows in basic medical sciences as part-time teachers, and 92 teachers and 113 assistants employed as associate teachers. Research fellows have to fulfill 50% of the teaching norm, enroll into postgraduate course, and work on their MS and PhD theses. The visiting (associate) professors are mostly from Croatian medical schools, and a few of them are from the Medical Faculty in Sarajevo. Associated assistants are predominantly employees of the Mostar University Hospital. Such a large number of visiting (guest) associates is a result of the lack of local teaching staff, and our wish to engage the best professionals, both as the teachers and experts in the Mostar University Hospital. At the same time, we hope to educate local professionals for the Hospital, as future teacher at medical schools.

The total number of assistants and teachers with the full annual teaching norm is 63. In the 2002/2003 academic year, 255 students were enrolled in the Medical School, meaning there were 3.96 students per teacher. Zagreb School of Medicine has a similar ratio – 3.8 undergraduates per teacher (unpublished data).

Full-time and part-time teachers and assistants may be re-elected or promoted into scientific-academic posts by the Faculty according to the by-laws of the Faculty Council, which correspond to the minimal conditions as regulated by the Croatian Ministry of Health for biomedical field (12). Each teacher has to publish at least half of their scientific papers in the area of their expertise. Students' evaluation of teachers and classes is also taken into account.

Professionals at the Mostar University Hospital are offered part-time position at the School. In this way, we recruited a number of motivated but not overburdened teachers. The fact that most teaching assistants/associates among physicians have enrolled

into postgraduate studies, with some already having defended their master's degree thesis or doctoral dissertation, is highly encouraging. However, the lack of basic sciences teachers represents a special problem. The interest in basic sciences teaching career is low, primarily due to the lack of the equipped laboratories for experimental research and shortage of financial support to scientific research in Bosnia and Herzegovina. Additionally, basic sciences teachers have lower income than clinical teachers. Hence, in the cooperation with Mostar University Hospital Management, we opened the possibility of offering younger associates in basic sciences clinical residency once they have gained the teaching experience in the field and completed their master's degree, or received the approval of the topic of their doctoral dissertation thesis. Upon the completion of the residency, the associate would be employed part-time at the Mostar University Hospital, and part-time at Mostar Medical School where they would teach the basic sciences. Another possibility is that clinical specialists sub-specialized in a certain field and interested in research take part in teaching basic sciences courses pertaining to their area of expertise (e.g., cardiologist teaching the physiology of the heart within the Physiology Course).

Students

To enroll into Mostar Medical School, the students must pass the admission exam, which is identical to the exam used at Croatian medical schools (13). There are 80-120 applicants each year, ie, 25-50% less than estimated by Šarac et al (1). The capacity of the School is 48 students; in the past six years there were 40-47 students enrolled each year. In some academic years, a few more were students admitted in the first or second year, having moved from other medical schools (the optimal number of students enrolled would be around 50; ref. 1). Also, 7 to 8 students out of 15 who score the best on the admission exam still try to enroll into Croatian medical schools, and usually succeed in doing so. The applicants have very good high schools grades (around 4.15 on average out of a maximum of 5.00), but still half of a grade less than applicants to Zagreb Medical School (unpublished data). They also score 50-100 points less on the admission test than do Zagreb Medical School applicants (unpublished data). However, our preliminary results have shown no correlation between success in high school and admission test results (unpublished data).

Although students enrolled in Mostar Medical School score significantly less on admission test than their colleagues in Zagreb or Split, they are assessed by majority of the lecturers and other staff as very diligent and motivated, which is the reason why they manage to catch up and make up quickly for the poorer knowledge gained in high school. On average, 82% of the students pass the year. For example, 25 out of 41 (60%) students of the first generation enrolled in Mostar Medical School graduated in time. The first graduates are shown on the Cover Page: Ivica Brizić, Tanja Šimić, Tomislav Sušac, Bruno Bundić,

Tina Krišto, Ivan Šarić, Pero Bubalo, Ante Bošnjak, Filipa Markotić, Josip Petrović, Ivana Tica, Sandra Jurić, Lamia Bubalo (bottom row); Filip Čulo (Dean), Spomenka Kristić, Jurica Arapović, Sanja Selak, Blanka Lukić, Helena Radić, Julijana Soldo, Maristela Šakić, Milena Džalto, Goran Đuzel, Daniela Matušić, Valentina Ratkajec, and Oliver Radoš (top row). In the past three academic years, the passing rate for all students has been significantly higher than in earlier years.

Students who fail the year but pass all the prescribed exams before the summer semester have the possibility to partially enroll and attend the classes in the summer semester of the current year. Thus they are given a possibility to finish two years of studies in three academic years.

In the past 6 years, a total of 19 students dropped out of School for different reasons. Four of them lost their student status (after having failed the exam for the fourth time, they took the course again and failed again to pass the exam after four attempts). More students transferred to Mostar Medical School from other schools than the other way around (15 vs 11 students).

Student Representatives

There are student representatives for each undergraduate year in the Faculty Council, the most important School's management body. The so-called "student issues" are a regular part of each Faculty Council meeting agenda, which gives the students opportunity to comment on teaching, textbooks, exams, and teaching programs and plans. At the end of each semester, students are surveyed for their opinion on teaching and lecturers, and the results of surveys are presented at the Faculty Council meetings.

Students occasionally invite experts to give lectures on topics that are not sufficiently elaborated in the regular curriculum. The Faculty tends to support such student initiatives, but should do more where financial aspects of support are concerned.

International Student Collaboration

Every year, four to eight students visit Medical School in Heidelberg, Germany, or University of Cork in Ireland, or Zagreb and Osijek School of Medicine in Croatia, usually during summer clinical trainings. Also, two students spend a month during summer break doing scientific research in the Laboratory of Immunology at the Rijeka University School of Medicine in Croatia.

Follow-up and Employment Opportunities for Graduates

According to the data of the Employment Bureau in the Herzegovina-Neretva County, there have been practically no unemployed physicians since 2002. After the first generation of physicians graduated from Mostar Medical School in 2003, we decided to establish the association *Alma Matris Alumni* of the Mostar Medical Faculty, to facilitate monitoring of the employment rate and flow of respective information. Furthermore, we will try to survey our graduates some

time in the future to obtain long-term feedback on the School's program and quality of teaching.

Postgraduate Studies

Many associates of the Mostar University Hospital (now teaching assistants at the Medical School) attended postgraduate studies before and/or after the 1991-1995 war (14), mostly at medical schools in Croatia or Bosnia and Herzegovina. However, due to the war, many PhD students took a break from their studies for a few years and therefore missed some deadlines. In the meantime, the Croatian system of postgraduate studies changed, requiring from PhD students additional research and other experience not easy to obtain in Bosnia and Herzegovina. The Zagreb University School of Medicine acknowledged the circumstances and granted the students from Bosnia and Herzegovina special treatment, enabling them to graduate after all. However, attending postgraduate studies outside of BH proved to be expensive for both the health care system (absence from work) and students themselves (costs of living away from home), as well as inconvenient (students being away from their families for longer periods of time). Therefore, we decided to organize postgraduate medical studies in Mostar (Table 2). Due to the lack of laboratory and other equipment, we could not afford to organize science-based postgraduate studies in biomedicine, but we opted for the PhD program focusing on medical care and public health, for which both the need and facilities existed. The aim of the studies is "to introduce the physicians and other health workers in the region to the basic principles, elements, organization, and measures of improving quality of medical care, as well as to the contemporary aspects of management and education in the health care system, its organization, and the promotion of health and bioethics in the health care sector. To achieve these goals, all physicians need to acquire basic education in medical informatics and statistics, and in rational use of diagnostic and therapeutic methods. Our final goal is to raise physicians' awareness of the current organizational principles and rationalization in medicine, enabling them to play a vital part in providing quality health care and health promotion in the region."

The postgraduate studies are primarily organized for the teaching assistants who are physicians and teach clinical courses, whereas teaching assistants in the basic medical sciences still need to attend the postgraduate studies in biomedicine (experimental medicine) in Croatia or other universities in Bosnia and Herzegovina. To assistants with Master of Science degree, we offer the possibility to attend doctoral studies in Mostar, which are almost identical to those taught at Croatian medical schools.

Scientific Work

Our School is not in the position to support scientific work at the moment, primarily due to the lack of equipment, staff, and financial resources. Still, some members of the staff work on research projects on their own, with the support of guest-professors and

Table 2. The curriculum of the Postgraduate Course at the Mostar Medical School

Course/semester	No. of hours
I. Medical Care Courses	
First semester:	
Principles of scientific work	20
Health management	27
Basic use of information technologies	25
Total	72
Second semester:	
Principles of medical care	45
Components of medical care	25
Protection measures for the patient and the care provider	25
Rational laboratory diagnostics (elective course)	25
Total	125
Third semester:	
Statistical methods in medicine	25
Epidemiological research methods	25
Rational pharmacotherapy (elective course)	30
Basics of general psychopathology and behavioral medicine (elective course)	
Total	105
Fourth semester:	
Radiological diagnostic methods (elective course)	25
Applied medical informatics (elective course)	25
Master's thesis	10
Total	60
Medical care total	362
II. Public Health Courses	
First semester:	
Principles of scientific work	20
Health management	27
Basics of using information technologies	25
Total	72
Second semester:	
Principles of medical care	45
Components of medical care	25
Protection measures for the patient and the care provider	25
Financing and organization of health care	25
Total	125
Third semester:	
Statistical methods in medicine	25
Epidemiological research methods	25
New public health - health promotion	25
Health care and ethics	25
Total	100
Fourth semester:	
Principles of medical informatics (elective course)	25
Master's thesis	10
Total	35
Public health total	332

researchers from other countries. In the last two years, we have regularly organized two-day courses in "Research Planning and Writing a Scientific Paper", held by the staff from the *Croatian Medical Journal*. Physicians, teaching assistants, and sixth-year students, for whom it proved to be a great help with writing of their graduating theses, attended the courses. Some of the successfully defended theses are published in the student issue of the *Croatian Medical Journal* (15-17). Regular organization of monthly scientific and professional lectures, given by the most prominent researchers in the region or guest-teachers, is another form of School's support for scientific work.

International Cooperation

The School cooperates with several medical schools from around the world, e.g., Heidelberg, Germany; Semmelweis, Budapest; Cork, Ireland; and Queen's University at Kingston, Canada (18). We or-

ganize student exchange (Heidelberg and Cork), guest-lectures (Heidelberg and Queen's), and join our forces when applying for TEMPUS projects. We currently have two TEMPUS projects – one that has started only recently, and the other that enabled us to organize a modern and well-equipped medical library (18).

Applying the Principles of Bologna Declaration

The Bosnia and Herzegovina High Education Coordination Board requires from all Universities in the country to implement the principles defined by the Bologna Declaration and the documents following from it (Prague 2001 and Berlin 2003) (19). Thus, Mostar Medical School applied the European Credit Transfer System (ECTS) scoring and ECTS Brochure for the undergraduate studies, and is currently developing a diploma supplement project (to be realized by the end of 2005). We also expect the results of the European University Association's external evaluation, which is due in March 2004 (20).

Impact of Mostar Medical School on Development of Health Care System in the Herzegovina Region

Although our first generation of physicians has graduated only recently, some effects of the School's positive influence on the health care in the region have already become evident. We believe that monthly professional and scientific lectures organized regularly by the School, newly-founded medical library, and informatization infrastructure development were the activities that contributed the most to increasing the level of knowledge and motivation among the physicians and other health care workers in the region. Furthermore, some of our guest-lecturers have broadened their activities by signing contracts of professional cooperation with the Mostar University Hospital. It was also interesting to witness rapid and enthusiastic professional development of physicians who became teaching assistants at the newly founded medical school. We expect that our postgraduate studies, where a special emphasis will be put on the implementation of the principles of evidence-based medicine in everyday practice, will further increase the quality of health care in the region.

Problems and Perspectives

The principles and criteria of educational quality we aim to achieve should fulfill basic standards faculty must meet to create conditions for development of quality assurance, which were well defined by the World Federation for Medical Education. Aside from the shortage of our own teaching staff, two major problems of our young School are the lack of a continuous financial support (and we share this problem with the rest of the Mostar University faculties) and inadequate School facilities.

Mostar Medical School uses an improvised space of about 1,000 square meters, provided by Mostar University Hospital. We managed to equip this space rela-

tively well, and it now suffices for the first three years of the studies, except for the dissection classes in human anatomy and pathology. Thus, our students unfortunately do not have the opportunity to study these two subjects on human models. Clinical courses are taught at the adapted facilities of the Mostar University Hospital.

We were unable to organize a research laboratory, although we have relatively modern laboratory equipment donated from Germany. Another drawback is no study room, where students could study and search the literature during the breaks. The Medical library is unfortunately too far away from the School premises for students to be able to use it during their breaks. We have started with the construction of the School's own facilities, a project financed by the Croatian government (as part of cultural support to Croatian entity in Bosnia and Herzegovina). However, the resources have only sufficed for the completion of the reinforced concrete works. We are now in search of the additional resources, which would help us solve the burning problem of lack of space.

Filip Čulo

Dean, Mostar University School of Medicine

- 1 Šarac I, Bagarić I, Orešković S, Reamy J, Šimunović V, Lang S. Physican requirements for Croat population in Bosnia and Herzegovina. *Croat Med J*. 1997;38:83-7.
- 2 World Health Organization, Regional Office for Europe. European medical curricula access diskette (EMCAD). Geneva: WHO; 1994.
- 3 Čulo F, Župan G. Development of medical teaching (basic directions). Teaching material for postgraduate professional education of teachers [in Croatian]. In: The art of medical teaching. Zagreb: Croatian Society for Medical Education, Zagreb University School of Medicine; 2000, p. 1-7.
- 4 Dušek T, Bates T. Analysis of European medical schools' teaching programs. *Croat Med J*. 2003;44:26-31.
- 5 Čulo F. On Mostar Medical School: introduction. *Mo-stariensia*. 1999;10:3-10.
- 6 Marušić M, Sapunar D. Explanation to the necessity of founding Split University School of Medicine [in Croatian]. *Liječ Vjesn*. 1996;118:133-8.
- 7 Sapunar D, Marušić M. Curriculum of Split University School of Medicine – modern concept for the new school [in Croatian]. *Liječ Vjesn* 1999;121:208-12.
- 8 Hrabac B. Family-centered care as a framework for primary health care development in Bosnia Herzegovina. *Croat Med J*. 1997;38:9-12.
- 9 Queen's University Family Medicine Development Program in Bosnia and Herzegovina. Available from: <http://www.queensu.ca/fmed/bosniafm/aboutus.html>. Accessed: January 5, 2004.
- 10 Queen's University Faculty of Health Sciences – MD Program. 1997-1998. Available from: <http://meds-10meds.queensu.ca/medicine>. Accessed: January 4, 2004.
- 11 Rumboldt Z. Medical school in Split: intentions and achievements. *Croat Med J*. 2000;41:361-7.
- 12 Bošnjak D, Rajčić D. The new structure of higher education in the Republic of Croatia. *Croat Med J*. 1995;36: 81-4.
- 13 Prka M, Pulanić D, Glavaš E. Paying tuition and academic performance of students at the Zagreb University School of Medicine. *Croat Med J*. 2001;42:74-8.
- 14 Horton R. Croatia and Bosnia: the imprints of war – II. *Restoration*. *Lancet*. 1999;353:2223-8.
- 15 Šimić T, Šumanović-Glamuzina D, Boranić M, Vukšić I, Boban A. Breastfeeding practice in Mostar, Bosnia and Herzegovina: cross-sectional self-report study. *Croat Med J*. 2004;45:38-43.
- 16 Selak S, Jurić V, Hren D, Jurić M. What young people from Mostar, Bosnia and Herzegovina, know about contraception and sexual health. *Croat Med J*. 2004;45: 44-9.
- 17 Bubalo P, Curić I, Fišter K. Characteristics of venomous snake bites in Herzegovina. *Croat Med J*. 2004;45:50-3.
- 18 Šimunović VJ, Sonntag HG, März R, Horsch A. Reform of medical education in Bosnia-Herzegovina: luxury or necessity? *Croat Med J*. 2004;45:31-7.
- 19 University of Zagreb. European credit transfer system. Sveučilišni vjesnik, vol. XLVI. Special issue. Zagreb: University of Zagreb; 2000.
- 20 World Federation for Medical Education. Basic medical education – WFME global standards for quality improvement. Copenhagen: University of Copenhagen 2001;1-42.