



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

HELLENIC REPUBLIC

Α.ΔΙ.Π.

H.Q.A.A.

ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ ΠΟΙΟΤΗΤΑΣ

HELLENIC QUALITY ASSURANCE AGENCY

ΑΝΩΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

FOR HIGHER EDUCATION

EXTERNAL EVALUATION REPORT

DEPARTMENT: Medical School

DEMOCRITUS UNIVERSITY OF THRACE

JUNE 2011

External Evaluation Committee

The Committee responsible for the External Evaluation of the Department of Medical School of the Democritus University Thrace consisted of the following four (4) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005:

1. Dr. Nicandros Bouras (President)
Professor Emeritus of Psychiatry, King's College London

2. Dr. Spyridon Kollias
Professor of Radiology, University of Zurich, Switzerland

3. Dr. Vassilis Koliatsos
Professor of Pathology (Neuropathology) and Neurology, Johns Hopkins University, Baltimore, USA

4. Dr. Elza Mylona
Professor of Preventive Medicine, State University of New York, USA

***N.B.** The structure of the "Template" proposed for the External Evaluation Report mirrors the requirements of Law 3374/2005 and corresponds overall to the structure of the Internal Evaluation Report submitted by the Department.*

The length of text in each box is free. Questions included in each box are not exclusive nor should they always be answered separately; they are meant to provide a general outline of matters that should be addressed by the Committee when formulating its comments.

Introduction

The External Evaluation Committee (EEC) visited the Medical School of the Democritus University of Thrace (MS – DUTH) at Alexandroupolis from Monday 6th to Wednesday 8th June 2011. The members of the EEC had been provided with the Internal Evaluation report (November 2009) and the "Guide of Studies" prior to the visit and had the opportunity to consider them. The EEC was also briefed in Athens by the Chairman of ADIP, Professor Spyros Amourgis, prior to the visit.

On arrival, the EEC met with the Dean of the Medical School, Professor Dionisios – Alexandros Verettas, Professor Miltiadis Lazaridis who oversaw the process of internal evaluation of the Medical School and the members of the OMEA, Drs. V. Vargemezis, M. Papaioakim, E. Kaldoudi, E. Manolopoulos, and M. Froudarakis.

The Deputy Head of the School was absent due to health problems.

During the visit, the Committee met with undergraduate students, teaching, research and administrative staff at the University and the University Hospital. The Medical School provided the EEC with additional information as requested.

On Tuesday 7th June the EEC attended an informative presentation session by Professor Dionisios – Alexandros Verettas and members of the OMEA that was also attended by two student representatives and in part by the Vice - Rector of Democritus University of Thrace Professor Georgios Kosta.

On the Wednesday 8th June the EEC met with:

- a) A small group of students (selected by the faculty due to unfortunate timing of the visit during the exam period),
- b) Members of the junior faculty (approximately 10% of the junior faculty of the School),
- c) Faculty members elected by the University, waiting for approval of their appointment status to assume their academic duties.

The students were positive with the external evaluation process and spoke openly.

The junior faculty were very eager to participate in the external evaluation process and impressed the EEC with their openness and comments. They were enthusiastic about the process of the evaluation but were less optimistic about the prospects of implementing the outcomes of the external evaluation.

Facilities visited included:

- a. Medical School: teaching theatres, classes, teaching laboratories (including histology-embryology, hygienic, physiology, anatomy, biochemistry, etc), research laboratories, administration and other areas
- b. University Hospital: several inpatient wards and clinics in clinical departments.

The EEC found the internal evaluation report and associated relevant documentation informative and essential for understanding the functions and components of the School. Though the internal evaluation report was produced in

2009 the EEC received additional update information and felt that the objectives of the internal evaluation process were met and expresses its gratitude to Professor Lazaridis and all other members of OMEA for putting together the document.

The committee members were very pleased with the warm welcome and by the commitment of all to the process of evaluation and are grateful for their cooperation and collaboration.

A. Curriculum

To be filled separately for each undergraduate, graduate and doctoral programme.

APPROACH

Undergraduate Curriculum

As mentioned in the internal evaluation report the main aim of the curriculum is to offer its graduates adequate clinical experience and solid theoretical knowledge in all preclinical and clinical disciplines relevant to the medical profession.

Considering the young age of the school, which was created in 1984-5 initially as an ANNEX institution of the medical school of the University of Thessaloniki, the development of the curriculum has been for several years a work-in-progress, being enriched ad hock with new disciplines according to the new staff elected year after year. Initial emphasis was given on multidisciplinary representation of the curriculum, which was a difficult task considering constrains in recruiting faculty members for the newly created University. A strategic planning according to international standards, interconnection between disciplines and balanced structuring between the preclinical and clinical curriculum was not emphasized in the initial phase.

The current curriculum is the product of a reform that followed an analysis of the established system and is the product of further faculty development. Actual aims are focused on international standards of medical education. The necessity of an even distribution between preclinical and clinical disciplines and of the students' workload is emphasized and the importance of appropriate administration and

management is recognized by the new faculty members that compose the majority of the teaching staff of the MS-DUTH. Issues such as students and teaching staff mobility, continuing education, development of infrastructure for e-learning, introduction of small group active learning are presently central to the formation of the new curriculum and preoccupy the relevant bodies of the School.

The EEC remained with the impression that there is a genuine interest and emphasis in adapting the curriculum to international standards taking into account also the necessities of the local society (which requires medical and health care on all aspects of tertiary, fully specialized, medical care without the necessity for moving to other centers (i.e., Thessaloniki or Athens). The curriculum is – reviewed by a committee for education appointed yearly by the president of the MS - DUTH that submits its suggestions for discussion every April in the general assembly. The final decisions of this committee are published in a guide for education that is available electronically. Representatives of the students seem to participate in the committee and the final formation of the curriculum.

New specific goals of the - revised curriculum are to support medical education via information and communication technologies (ICT), to facilitate contemporary learning experiences, to familiarize medical students with information technologies and innovate in the field of medical education as supported by information technologies.

Postgraduate curriculum

The post graduate curriculum consists of six courses of variable length aiming in advancing specialized training and acquisition of advanced skills in corresponding disciplines. They are mostly multidisciplinary and in relation to doctors are addressed to those who have already acquired a relevant specialization. Three of them are organized exclusively by the MS - DUTH and the rest by collaborations with other Greek Universities. All of them are self-funded (mainly through tuition fees and the industry). They are all subjected to evaluation, however, no scores are mentioned in the internal evaluation and were also not available for the EEC. In addition it appears that none of them has been externally evaluated. These courses are the following: 1) Clinical Pharmacology and Therapeutics, 2) Hygiene and Safety in the Workplace, 3) Medical Physics and Radiation Physics, 4) Post-graduate course of specialisation in Liver, Biliary and Pancreatic Surgery 5) Post-graduate course in Endo-Urology, 6) Post-graduate course in Community Psychiatry.

There is a large number (>600) of graduates pursuing doctoral degrees (diatrivi) although a very small fraction eventually is awarded this degree. The doctoral degree awarding program is a seriously flawed system, similar to other medical schools in Greece. There are significant differences of the doctoral degree acquired through the existing process in Greece and the internationally recognized doctorate. This is intensified by the requirement that a doctorate is required for any physician who wishes to advance in academic and national health system. This is a serious issue that the University must address, together with other Greek medical schools to avoid confusion and waste of resources. The EEC advises that the University provides a doctorate - awarding program that will comply with the Bologna reforms and international standards that will accept a limited number of students, fully supported throughout studies by existing resources. In addition, for the establishment of the doctorate program, it is necessary to define grants and research programs assuring the realization of the projects and the financial support of the candidates.

The residency training curriculum:

It is presently unclear whether, and at what level, the residency training curriculum is determined by the ministry of education, the University members, the ministry of health, and/or the corresponding medical societies of each specialty.

The Hospital in the city of Alexandroupolis has a dual profile being at the same time a University Hospital and also a Hospital of the National Health System (ESY). This result to young doctors being trained in the same specialty within the same hospital but in different clinical units with different staff members (belonging to the University or to ESY) that sometimes share even the same wards. This has deleterious consequences for the training of young doctors ranging from the reduced number of beds for each clinic and inadequate exposure to patients not only for the residency doctors but also for the students, to the waste of available resources that are shared among clinics of the same specialty. Even worse, residents at the University Clinics are not selected based on excellence, or other objective criteria of merit but solely on waiting lists determined by the Ministry of Health.

Although the Hospital in Alexandroupolis has developed into a tertiary referral centre where all medical and surgical specialties are represented (i.e., cardiac & thoracic surgery, neurosurgery, plastic surgery, paediatric surgery, haematology, nephrology, rheumatology, metabolic diseases, oncology), including all laboratories

(CT, MRI, Bone scans, DEXA, angiograms etc), several specialties including ENT, neurosurgery, pediatric surgery, vascular surgery are understaffed with a reduced number of beds, which does not allow for appropriate medical training in the specific disciplines.

Staff members' curriculum:

There is a lack of a standardized curriculum for the academic staff. Although internationally accepted criteria such as h-index, impact factors, number of publications seem to play a role for the election of faculty, both the lecturers, as well as the associate and full professors obtain their academic positions based on defined minimum criteria. The only official criteria are essentially the diploma of medical studies and the certificates of medical thesis doctorate. All other criteria depend on the subjective evaluation of the election committees. The funding history (particularly the acquisition of competitive European or even National grants) does not seem to play a decisive role as an important criterion for the academic advancement of the faculty and thus it is under represented in the curriculum of most faculty members.

IMPLEMENTATION RESULTS AND SUGGESTIONS

Undergraduate Curriculum

The EEC felt that the undergraduate curriculum although supporting comprehensively the theory of medicine, lacks the balance between theoretical and practical aspects of training. It was evident by the interviews of both junior faculty and all the students we met that the Curriculum lacked the practical hands-on experience that would give its clinical relevance and eventually meet the main aim of the School, to create well rounded trained doctors. This problem is recognized by the School however, no concrete measures have been taken to overcome it. Still today the undergraduate curriculum is composed by a very large number of lectures that are insufficiently attended (according to the students, 20-30%). The number of elective topics is also very large (49 from which 14 required for graduation) resulting in small attendances and reduced interest by the students. Following discussion with the students, that we had the opportunity to meet, the EEC remained with the impression that an essential link between the preclinical and clinical disciplines is

missing, thus leading in the preclinical years to memorization of apparently unnecessary and irrelevant knowledge. Essential topics, such as physiopathology, are missing from the curriculum and it seems that any active communication between preclinical and clinical disciplines is nonexistent.

In the clinical years the active participation of the students is partially reinforced by the faculty. However, due to shortage in staff and small number of beds in each clinic this is largely dependent on the personal interest and motivation of individual students. This gives the impression that the students decide on a specific clinical discipline based on subjective criteria related to the degree of personal involvement of the student or the faculty. As a result of this situation, the graduates end up choosing disciplines for their subsequent specialization based on subjective, personal experiences rather than informed, multifaceted, criteria related to each discipline.

Another important issue that should be addressed by the School related to the clinical training is the establishment of a logbook of clinical cases, skills and procedures that should be mandatory for graduation.

A step forward in the development of the curriculum that needs to be mentioned and further supported and strengthened by the University, is the link between Medical Education & Information Technologies. It has been implemented through several competitive national and EU R&D grants that allowed continuing research and innovation and provide continuing staff/student training and support. Both the Medical Education Office coordinator (Prof. V. Vargemezis), and the MS - DUTH Scientific Coordinator of these R&D projects (Assist. Prof. E. Kaldoudi) should be commented for their effort.

Postgraduate Curriculum

The postgraduate curriculum in the six topics stated in the internal evaluation report is rational and clearly articulated, coherent and it seems functional covering the necessity for continuing medical education and specialization of a broad spectrum of medical professionals. The material for each course seems appropriate and the time offered sufficient. All of these courses are self-funded. However, the School would like to have additional resources particularly for inviting appropriately qualified and trained staff from abroad. A swift of these courses to English language and the possibility of a broader participation of internationally acclaimed teachers would eventually result in a broader international acceptance of these courses and enhanced visibility of the School. It can also lead to participation of international

applicants thus improving the chances for reassuring further resources. Formation of specific courses linked to the doctorate program, in association to the basic sciences department should also be pursued in the future potentially replacing the doctoral degree (diplomatiki).

The residency training curriculum:

In the internal evaluation report it is mentioned that the graduates of the MS-DUTH have a very good professional continuation in Greece and abroad. The fact however is that most (and probably the brightest) of the former students seek residency positions wherever in other European countries being frustrated by the long waiting lists for the residency openings in Greece. This was the unanimous response of all students that we had the opportunity to meet during our visit. This brain-drain, which is typical of the medical education presently in Greece, is a serious issue that Greek Universities and State forums should deal with.

Staff members' curriculum:

There is a lack of training courses and any kind of support for the faculty members, especially junior faculty in how to apply and obtain competitive funding. It is a serious issue that 3rd party funding is not a major constituent of the curriculum of the faculty.

FURTHER COMMENTS

The EEC identified the following issues :

- There seem to be far too many trainees for the available teaching programs and clinical training. The University requests a reduction of the number of students entering the school every year however without success.
- An objective evaluation and output representative of the quality of the curriculum is lacking at all levels. This is a serious issue that should be institutionalized through the available IT lab at all levels of training.
- The decisions of whom and how many trainees are actually trained are up to the Ministry of Health, leading to mass exodus of graduates abroad. The EEC feels that the post graduate residency training in medicine should be reviewed with the involvement of the ministry of education and medical

societies and be linked to the rest of the curriculum. This is important because by linking the selection of residents to a national selection process based on merit, like the American matching process and other European programs, the exodus of the best and brightest can be avoided.

- The active participation in the e-learning program should be reinforced and extended to all faculty members (presently only the 20% of the faculty – usually the preclinical disciplines and the younger faculty – participate in this excellent initiative).
- It is necessary to reform the scientific and academic criteria for each step of the faculty members' promotions, comparable to those already existing in numerous European and US universities.
- The scientific impact is generally weak (although some departments have an excellent scientific output), reflected by the high total impact factor and citations index. The mean h factor was also lower compared to Western standards, in particular in relation to Full Professors.
- The number of international collaborations should be extended and reinforced. This can be achieved by the creation of an interaction with national and international centers, resulting to the improvement of the curriculum, local infrastructures and scientific income.
- In addition to the OMEA report proposals, new goals and objectives should be added in the curriculum in state-of-the-art areas of both international and national interest. Emphasis on current topical scientific areas should include topics such as, aging-related conditions, global health issues, medical Genetics, regenerative and rehabilitation medicine, Biomedical Engineering.
- The collaboration between the Medical School and the Department of Molecular Biology should be intensified and further supported and established also in training and in the reform of the curriculum.

B. Teaching

APPROACH:

The curriculum consists of 56 mandatory and 14 elective courses offered in 12-six month - periods. There are not prerequisites. At the moment there is no clearly defined pedagogical direction, although there is some discussion about the development of an outcome-based curriculum. All faculty members are expected to be involved in the teaching of undergraduate and post - graduate courses. Every faculty member carries the responsibility for the development of the course content, the instructional materials and delivery methods, and the assessment. Currently, there is no formal faculty and student body to evaluate the products.

The teaching methods used reflect the curriculum development model which is rather traditional. The lecture format is the principal way to convey information both in undergraduate and post - graduate courses. The students are expected to attend and take notes. The EEC is concerned with large number of mandatory courses in the preclinical years as well as with the significant number of lectures offered daily. Additional instructional methods include tutorials, mid-size group teaching (preclinical), small group teaching (labs and clinical), precepting (clinical), case-based and problem-based learning discussions. There is no systematic way of training the faculty in new ways of teaching and assessment utilizing principles of adult learning and outcome-based education. This need has already been recognized by the School and efforts are under way to address it.

Recommendations:

- Development of a Curriculum Committee consisting of basic and clinical faculty that represent all disciplines and students' representatives. This group will be responsible for the oversight and management of the curriculum as well as the annual review of the program for each year based on objective evaluation data from faculty and students.
- Systematic review of the academic program and the development of clear goals and objectives for each course to be able to identify unnecessary retention and / or repetition of topics within the curriculum. Consideration should be given in more interactive ways of learning as well as experiential learning and self-directed learning.

- It is essential to put together a comprehensive faculty development program that will improve knowledge and skills of the faculty in the areas of teaching, student assessment and program evaluation, educational administration and educational scholarship. In addition to improving the curriculum, such a program will make possible the recognition and support of the faculty who sustain the educational mission of the institution, thereby creating a pathway to promotion and career enhancement.

Teaching staff/ student ratio and teacher / student collaboration:

The faculty/student ratio is 1/5, 6. This is adequate especially when considering the didactic portion of the curriculum. However, these numbers become more challenging to cover the teaching needs of courses with a substantial laboratory component as well as in clinical training. The large number of students becomes particularly challenging to junior clinical faculty as they try to juggle multiple responsibilities/ expectations in patient care, research and teaching. The School has persistently requested fewer new students a year but this has been overcome by the decision of the Ministry. There appears to be some lack of commitment of some senior level faculty especially from clinical departments to be fully engaged in the teaching mission of the institution.

In discussions of the EEC with faculty and students it became obvious that there is strong mutual support and collegiality between faculty and students. This quality of relationships has resulted in attracting and retaining a number of students who come back after their specialty training to practice medicine in the region. The EEC is very pleased with these outcomes and would like to acknowledge these faculty members for their efforts.

Recommendations:

- Teaching responsibilities should be shared among all faculty members. The use of rewards and incentives may engage more faculty members to fulfil their teaching responsibilities.
- Incentives like teaching awards are not granted. These could be important criteria for further development.

Adequacy of means and resources:

The EEC as already mentioned visited a number of facilities and established that there is adequate space. The lecture halls have all the technical equipment necessary to achieve their educational goals. Most of the lab space is new and pleasant. However, there are serious problems with the air circulation and heating that affects negatively the quality of the instruction and the learning. The anatomy course is one of the courses that have been affected by these problems. The EEC is very concerned about the way that anatomy is taught using a 20-year-old cadaver without offering the students the experience to dissect of the cadaver working in small groups. Financial resources seem inadequate to supply all needs and consumables for many of the labs. In addition, the technical (ETEP) and administrative staff is insufficient to meet the requirements of some of the preclinical courses.

The central library is new and well designed. It has individual working stations for students and a sufficient number of electronic resources and journals. A smaller size library is available at the hospital that offers easy access to students during their clinical training.

Recommendations:

- The library is open 5 days/ week and closes early at summer time. This might be a problem for the students and post - graduates who want to work late or during the examination periods.
- The development of needs assessment will be helpful to identify all the technical and personnel needs of the labs and to prioritize their potential solutions.
- Provide students with the opportunity to use the anatomy lab effectively.

Use of information technologies:

The School offers a number of information technologies. The curriculum management system developed within the last five years offers exciting teaching and learning opportunities. However, full use is not made available of this technology for teaching. The School also offers opportunities for videoconferencing

and other interactive technologies.

It is our understanding that these technologies are not fully utilized by the faculty. Initiatives that would combine faculty development opportunities and the allocation of additional resources for hiring staff with the necessary technological background will increase the number of faculty users of these technologies.

Evaluation system:

The most common methods of assessment currently used are the multiple choice examinations and the oral/practical examinations at the end of the course (summative assessment). Some preclinical courses also use assignments or projects to assess the students. Grades are given on a scale of 1-10 with 5 as the pass mark. There are three assessment periods in the academic year. Students have multiple opportunities to retake the final examination of any given course. Although this approach may be seen that offers flexibility and helps the weak students to move forward, it makes the assessment less robust. The system gives the impression that no one fails! We recognize that this system is used in all the medical schools in Greece but we must state that is highly problematic by international standards.

Examination results presented to the EEC showed that only one or two students receive high passes at the end of the academic year. Our discussion with the students revealed some concerns about the way the assessment is taking place and specifically about the transparency. The EEC would like to see the development of clearly defined assessment criteria.

Recommendations:

- Use of multiple assessment methods especially in the preclinical years will create a more reliable assessment system.
- A defined policy that standardizes the assessment in similar courses and offers transparency and objectivity.
- Include formative assessment during the course that will provide students with feedback on their performance prior to the final examination.

IMPLEMENTATION

Quality of teaching procedures:

The EEC met with the directors of the various laboratories as well as faculty members from the clinical years and was impressed by their dedication and invested interest in student's achievements. However, there is no systematic collection of data that can be used to improve the delivery of the curriculum.

It is disappointing that only 16/56 required courses were able to collect evaluation data regarding the quality of the teaching procedures and only 7 courses submitted data to the internal evaluation team. The attendance of lectures is estimated up to 30%. This is an international phenomenon associated with traditional curricula that emphasize passive learning.

Recommendations:

- The development of a system that will provide continuous assessment thought out the curriculum is essential.

Quality and adequacy of learning materials and resources:

Course materials consist of textbooks written or translated in Greek and PowerPoint presentations. Some courses offer additional supportive materials on line. The library has a number of reference materials in other languages. The majority of them are in English. It is not known to what extent additional resources are used by the students. The preclinical courses use a number of supportive materials for their laboratory activities.

RESULTS

Efficacy of teaching:

This is an area that needs to be developed. At the moment, the only assessment data come from the students. There is no peer evaluation that will improve the quality and the efficacy of teaching. As we have commended elsewhere, there is no formal training for faculty who wish to improve their teaching skills. In addition, the traditional nature of the curriculum tends to create silos between units and prevents integration. There is some disconnect between basic and clinical sciences or within clinical disciplines such as the separation between the general and internal medicine. The EEC recognizes that this is a national problem that needs further discussion and consideration. However, we would like to encourage the faculty to

identify models that successfully exist in the US and Europe.

Discrepancies in the success/ failure percentage between courses and how they are justified.

- Without a systematic assessment system it becomes almost impossible to make these comparisons. It seems that each course/ unit acts independently and has its own standards that are not always well spelled out.
- The lack of prerequisites is problematic and needs to be addressed.

C. Research

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

IMPLEMENTATION

How does the Department promote and support research?

There appears to be no infrastructure and embedded mechanism for the promotion and support of research. Only ten pages out of the 100 pages of the OMEA report presented are devoted to research.

Quality and adequacy of research infrastructure and support

Overall, research infrastructure is deficient and at a closer look, of whatever infrastructure exists, it appears to be extremely unevenly distributed. The case of the new Experimental Animal Surgery compound serves well to illustrate the point. The new Experimental Animal Surgery compound of MS - DUTH was presented as one of the two jewels in its academic crown and a potential site of excellence. Indeed, the site visit divulged an impressive experimental surgical unit for a wide range of animals and for a multitude of surgical procedures that seemed well poised to compete with another similar unit in Greece. The unit seemed not utilised and the EEC was told that one of the explicit goals was the facilitation of future joint projects with the department of Molecular Biology and Genetics using transgenic mice. However no such projects have been underway or were mentioned as planned and no transgenic mice were present in the compound during the site visit. The kind of installations, including the surgical tables, appeared more appropriate for larger animals. It was unclear whether microsurgical capabilities, often necessary for the optimal exploration of transgenic phenotypes, were provisioned. The duplication of some of the installations with the existing (and apparently well used) experimental surgical suite that is attached to the main hospital may or may not reflect a capacity-building rationale and vision. If this unit is to be used, at least in part, for the phenotypic characterization of transgenic animals generated through the Department of Molecular Biology, the major infrastructural deficits in Pathology-Histology-Embryology (see below) would significantly undermine the scope of this plan. This is an example that, although shows the dynamic ambitions of MS - DUTH, at the same time raise concerns about strategic and coordinated research planning. Although itself impressive, this top-of-the-line unit underlines the problem of the uneven distribution of resources that may severely curtail the

potential of “jewels” like this to improve the overall research performance of MS - DUTH and ultimately hamper the pay back of what appears to have been a very substantial investment.

The severe lack of technicians was a glaring problem that begs the question of the realism of any large-scope research plan. It is difficult to quantify this problem, as technicians and office staff are classified together in the same professional grouping in the Greek State University system. With this caveat, of the 235 such positions provisioned for MS - DUTH, only 29 have been filled (just over 10%). In Histology-Embryology that is the only functional structural biology unit in MS - DUTH, there is not a single technician. The maintenance and replacement of teaching specimens is left to rotating medical students, based on a relay-style passing of skills as students overlap in their training cycles.

Immunocytochemical capabilities appear rudimentary and there was no evidence for expertise with, use of, or even planning for modern unbiased quantitative methodology (stereology) equipment and software. Such deficits in infrastructure would certainly undercut efforts at competitive transgenic phenotype characterization projects with Molecular Biology. There will also affect projects in other strategic research fields, e.g. Neurosciences. In contrast, Pharmacology sets a more successful example that, through a combination of basic and applied projects, has managed to gather a considerable manpower and be much more efficient and effective in its operations.

Scientific publications

MS - DUTH cites a reputable average number of publications for all faculty levels with good citation index, impact factor and h factor. The OMEA report indicates a linear increase in publications in international journals between 2006 and 2008. It is important, however, to be ascertained what is the relative contribution of original and review publications or chapters related to the presented statistics. It is also worth exploring further what publications from MS - DUTH made a significant impact in any one of the basic or clinical medical disciplines. One pattern that was evident from the perusal of some biosketches was a tendency for inclusion of multiple faculty members in heterogeneous projects; in this fashion, the level of scholarship and research achievement of individual scientists was not always clear. Another problem

was distinguishing original from review publications that were in most cases mixed under the generic grouping “publications”. The way CVs are laid out makes it often difficult to decipher the true scientific contributions that are based solely on original, peer-reviewed publications; these publications should always be separated, clearly and unambiguously, in the cited biosketches.

Research collaborations

Several research collaborations have been cited with institutions in several cities in Germany, two UK institutions, and a couple of institutions in Bulgaria and Turkey. The scope and significance of the above was not always clear from the way these collaborations were laid out.

RESULTS

It would be difficult to assess results of research activities in a Medical School where objectives are not clearly set. It should, however, be taken into account that MS-DUTH is part of a national academic tradition that generally lacks benchmarks and is not particularly friendly to measurements. Therefore, several of the criticisms laid out here or in other sections of this report do not necessarily mean that other Greek Medical Schools would fare better than MS - DUTH. Furthermore, despite the truly outstanding efforts of the OMEA and the efforts of the EEC, it is possible that some Departments were more visible than others and it was impossible, within the time limits allowed, for the EEC to have fully assessed the entire spectrum of research activities.

In future external evaluation it would be useful for the EEC to have available significant scientific publications in pdf files that are considered as having major contributions in the basic and clinical sciences, rather than an exhaustive list of papers mixing together original research with reviews and opinions.

One of the best indicators of efficacy in the research activity of a medical school is its ability to attract funding in competitive grant applications. In the case of Greek Institutions, such applications are divided into international and national. However, the latter, which are funded by the Greek Government

primarily and secondarily by professional medical associations, are a mix of projects, many of which serve educational or clinical purposes (one of the two million euros cited for the period 2003-2008 derived from two projects, one on the restructuring of undergraduate medical curriculum and the other from a project supporting home-based peritoneal dialysis). Therefore, one should primarily use success in competitive international (European) application funding as a “purer” measure of success in research funding. Together, applications in this rubric have been funded at the level of ~820,000 euros in the period 2003-2008, corresponding to an average of 140,000 euros a year for the entire MS - DUTH. Only half of the generated new research funding these years were associated with applications on research and educational networking among Balkan and other European countries. MS - DUTH has fared the best in industry euros procured through clinical trials and their record of close to 2.3 million euros for the 6 years 2003-2009 (close to 400,000 euros a year) is commendable, but some academicians would argue that this is not the best measure of academic research excellence.

RECOMMENDATIONS FOR IMPROVEMENT

Overall, research activities at MS-DUTH are at the stage of capacity building and core competencies must be established before the School becomes truly competitive for international and national research funds. In an increasingly competitive world and with increasingly questionable internal Greek funding, MS-DUTH must think seriously about areas where it can make a difference and establish competitive advantages and not waste valuable resources in “me too” projects. Strengths in some Departments or programs can provide much needed niches upon which to build focused research efforts and then organize graduate research activities and programs around them. For example, there may be an opportunity between their animal surgery facilities and the Molecular Biology Department, but MS_DUTH needs a state-of-the-art Histology core and a greater focus on rodent work. In addition, Pulmonary Medicine seems to have taken some very interesting initiatives in translational medicine for interstitial lung disease using stem cells; regardless of the concerns one might have about the sources of such cells and their true mechanism of function, this approach points to a bed-to-bedside trajectory with great potential for additional spin off projects in basic and clinical medicine and shows the way for similar efforts in other clinical specialties. Pharmacology seems to combine innovative pharmaco-immunology with clinical and

forensic services and their translational approach as well as financial modus operandi may serve as an example for others. MS-DUTH's clear emphasis in liver-duct-pancreatic surgery can also serve as a niche in which the institution may claim a specialization in the particular geographical region, but one wants to see a bed-to-bedside level of integration that can utilize MS-DUTH's state-of-the-art experimental animal facilities but also pull resources from other Departments. It would be very difficult for MS-DUTH to become competitive in multiple research areas under the present conditions, but strategic prioritization based on domains of relative strength and a much greater level of internal coordination and integration would go long ways to improve its competitive research position in a few key areas.

D. All Other Services

APPROACH

Due to time constraints, the EEC had limited opportunity to consider in detail the managerial and administrative infrastructure of the MS _ DUTH. It was however evident that the managerial and administrative infrastructure of the School is very limited. Several departments are even lacking secretarial staff and their duties have been undertaken by the teaching and research staff some of which are very small consisting of only two people. There appears to be a lack of core support staff as in academic organisations in other countries (e.g. central support for human resource management, updates for grant opportunities, provision of financial expertise for grant writing).

Students are housed in individually rented apartments in the city and receive financial support for accommodation, food and transport according to their family income.

The EEC was not made aware of mechanism for individual student counselling and “coaching” by faculty members. This need to be considered though might create further pressures on faculty time and may need to be accompanied by increasing numbers of faculty specifically trained in supervising, mentoring, and counselling.

The school enjoys a large modern built University Hospital within the campus. The school has developed several special clinical units such as ICU and Cardio-Thoracic Surgical ICU, Coronary Care Unit and Cardiac Catheterization Laboratory, In Vitro Fertilization Unit, Neonate Unit and ICU, Haemodialysis Unit and Peritoneal Dialysis Unit, Thalassaemia Unit, Bone Marrow Transplantation Unit, Infectious Diseases and HIV Unit, Rehabilitation and Physiotherapy Department, Radiotherapy and Nuclear Medicine, Experimental Animal Research Department and Operating Theatre, Cornea Transplant Unit and The Institute for the Research and Treatment of Ophthalmic Diseases.

The University Hospital accommodates also the National Health Service (ESY) clinical and health provisions. This coexistence of two parallel clinical and health

service systems run by different organisations in the same premises has been problematic. Most of the inpatient University departments are small with a small number of beds and in some cases there are more than one inpatient department with the same function. In addition there are a number of beds at the Hospital that are not in operation. The EEC feels that the current coexistence, organisation and management of the University health service provision and ESY is inefficient with detrimental effects on teaching, training and research. This problem has been recognised both by the School and the ESY as it was raised at a brief meeting between the General Manager of the University Hospital Dr Nikolaos Paftopoulos, his Deputy Mr Iordanis Dollas, the President of the School Professor Verettas and the President of the EEC Professor Bouras. The EEC believes that a satisfactory solution towards a unified structure is necessary as it already applies to some of the departments. The EEC understands that discussions for a resolution of this problem have been in progress.

The EEC noticed with interest the operation of a partially self funded Institute for the Research and Treatment of Ophthalmic Diseases and would like to recommend that similar developments for other areas are explored.

There is a modern built nursery within the premises of the Campus and the University Hospital used by the staff members. There is also a modern built "hostel" donated by the Stavros Niarchos Foundation

Collaboration with social, cultural and production organizations

There appears to be significant integration of the School within the local society and the local population of the city is supportive of the University. Several joined activities with the local society have been developed such as Club of Friends of the Department of Cardiothoracic Surgery, Club of Patients with Cancer and their friend, Continuing medical education of the city's physicians through regular seminars and meetings, Campaigns against smoking at schools (by student groups), a Basketball Team, Promoting laymen's knowledge on AIDS (by student groups), Promoting laymen's knowledge on diabetes mellitus (by student groups), Organisation of voluntary blood donation, Teddy Bear Hospital Days to help children overcome fear

of physicians, Outpatients clinic for students welfare (*old secretariat*).

Members of the School hold also frequent meetings and seminars open to the public e.g. H1N1 epidemic, Nuclear disasters and radiation, Participation in TV programs on health and Celebration of 25 years of medical education.

E. Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

Although there are some issues endemic in Greek University system that may act as inhibitors beyond the control of the School nevertheless there are some areas that the MS - DUTH should continue exercising pressure for positive resolutions. It is important to understand that whereas the MS - DUTH is a major contributor to the income of the University (i.e., by the clinical services of the faculty members of the School), only a portion of this budget is used to service the faculty of the Medical School. When the Vice Rector of DUTH was asked about the commitment of the University regarding further development and support of the Medical School and strategic planning for the future (5 following years), failed to provide a concrete plan of action and responded only with personal thoughts and general wishes for further development. The lack of clarity about financial resources significantly impairs the School's ability to plan ahead in a rationale manner (and possibly the government's ability to understand exactly how various resources are used for potentially complementary but also conflicting objectives). This may be a particularly acute problem in organisations expected to deliver education, research and health service, such as the MS - DUTH. Whereas this EEC believes that such factors beyond the control of the School are extremely important and need to be addressed, it also believes that they do not absolve the School from its responsibility to look critically through all of its resources and processes, and see how it can achieve the best possible results within existing constraints.

The MS – DUTH appears to be lacking an overall vision and strategic plan with identifiable objectives and priorities that will guide their development within an

agreed time frame work. The MS – DUTH needs to develop an overall strategy and evaluate its objectives on a frequent basis, due to the continuing changes occurring around and within it. It should then develop a clear plan for addressing each and every one of these objectives, in a constructive way, that does not constitute either a “wish-list” expected to be funded in its entirety by central government, or an internal war for a piece of its admittedly limited resources. Some of the issues, in addition to recommendations made in other sections of this report, that the School needs to assess accurately (but not an exhaustive list) include:

- More emphasis should be given increasingly to the development of skills-based rather than only knowledge-based teaching and examinations, particularly towards the 5th and 6th years of study.
- Link curriculum content to outcome-based objectives.
- Empower the curriculum committee to make sure that changes are implemented based on objective and reliable data collection.
- Shorten the number of courses especially in the preclinical years and identify opportunities for integration.
- Establish a logbook of clinical case, skills and procedures that should be mandatory for graduation.
- There is no systematic assessment of the quality of teaching that might lead to redesign of teaching approaches. Systems need to be developed and adhered to, that will guarantee at least an evaluable minimum quality of teaching and training across the board.
- Systematic training of trainers in novel and effective teaching approaches.
- A doctorate - awarding program that will comply with the Bologna reforms and international standards.
- It is necessary to establish minimum scientific and academic criteria for each step of the faculty members' promotions, comparable to those already existing in numerous European universities.
- There are conflicting priorities with teaching, research and clinical responsibilities particularly among the faculty junior members lacking individual “job plans” and that needs to be addressed.
- Consider the severe lack of technicians and the state of some of the laboratories e.g. Anatomy
- Give emphasis in the development of research strategy

Long-term actions proposed by the MS - DUTH.

Expansion

- Acquisition of the building of the old hospital premises (in town) and prepared for use for :
- Offices
- Labs (DEXA)
- Lecture theatre for postgraduate programs
- Old secretariat in town for official functions and meeting rooms for teaching staff and students alike
- Outpatients clinics for students welfare
- Improvements on the stadium
- New indoor stadium for Basketball, Volleyball etc

Research:

- Containment of number of Doctoral Degrees and improvement of quality through the new regulations and the function of a special committee.
- Increase of number of applications for European and International Research programs.
- Increase of Clinical Investigations through Industry
- Increase of applications for national research programs as well as inter-state co-operation programs.

Considering that the term of Professor Verettas as Head of the School ends in August 2011, it was unfortunate the absence of a person who would guarantee continuity of the planning and implementation of the MS – DUTH's program.

F. Final Conclusions and recommendations of the EEC

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

The development of the MS – DUTH has been an important milestone in Greek Medical Academic Strategy. The momentum provided by the MS - DUTH has factually changed the landscape of clinical care provision in the whole Region from grossly underdeveloped services to advanced tertiary facilities and pockets of clinical innovation. Teaching and training medical students is adequate and is supported by very strong modern innovative information technology. MS - DUTH has been recruiting in recent years a young promising faculty that if offered appropriate support and opportunities they will establish themselves internationally. The small size of the MS - DUTH offers a major opportunity for close collaboration. There is a lack of research strategy leading to limited outputs and even a fragmentation within faculty to utilise all potential opportunities e.g. molecular biology. There is a lack of systematic evaluation and assessment of teaching methods. There is also a lack of modern, efficient approach to management and lack of robust management and administration systems.

The MS-DUTH is faced with the following main challenges, which are stated in order of significance according to EEC's opinion:

- (a) Develop an overall vision and strategic plan for the improvement of the educational mission with identifiable objectives and priorities that will be evaluated regularly within an agreed time frame work.
- (b) Clarify its conceptual and operational association and collaboration of the University Hospital and National Health Service (ESY) in order to iron out existing tensions and conflicting priorities, and in this way lead to mutual benefits for organisations, teaching and training, research, their staff and the local population.
- (c) Develop and implement a clear research strategy leading to improved outputs with focus on certain areas that reflect the skills of the faculty and some unique MS-DUTH resources. This development in order to be sustainable is advisable to take place in phases of realistic time schedules.
- (d) Address the shortage of junior faculty (the junior faculty exists, we met them, has been elected but it is not appointed for several months perhaps

exceeding a year) and technical staff.

- (e) Continue to facilitate the process of evaluation by having an interim evaluation of progress in approximately 2 years from now, and sharing its experience with other Medical Schools in Greece and abroad. The development of an overall culture of quality assurance, with effective and transparent mechanisms to support it, and a strategy of dissemination of its positive effects to faculty and students is necessary and will be a great achievement.

The EEC felt that was very welcomed and was impressed by the commitment of all to the process and necessity of evaluation. The EEC was also impressed with the commitment of the students and junior faculty that we were able to meet. The EEC was mostly impressed with the commitment of the junior faculty members to succeed under conditions that are not always optimal. This gives hope for the future. The EEC feels the urgent need to bring this to the attention of both the University and Governmental authorities because it is clear that most of these people, unless given the appropriate attention and support will seek opportunities outside the country.

The EEC was very pleased with the warm welcome by the leadership and faculty of MS - DUTH. The EEC recognizes that several of the deficiencies and problems mentioned in this report are not unique to this School but represent practices and realities that are spread throughout the academic institutions in Greece. The EEC felt that they had to mention what they saw as problematic, regardless of whether they represented systemic issues or local deficiencies. This report is presented, thus, in the spirit of constructive criticism and with the hope that it will spearhead changes that will not improve only this School but will be useful for tackling the Greek academia systemic problems.

The EEC welcomes with great satisfaction the introduction of the evaluation process in Greek Medical Schools, in accordance with well established international practices and standards. It is believed that the evaluation process will become an important contributing factor in monitoring Quality Assurance and leading to considerable improvements in teaching, training, research and developments as well as clinical practice.

--

The Members of the Committee

Name and Surname	Signature
1. Dr. Nicandros Bouras (President) Professor Emeritus of Psychiatry, King's College London	
2. Dr. Spyridon Kollias Professor of Radiology, University of Zurich, Switzerland	
3. Dr. Vassilis Koliatsos Professor of Pathology (Neuropathology) and Neurology, Johns Hopkins University, Baltimore, USA	
4. Dr. Elza Mylona Professor of Preventive Medicine, State University of New York, USA	