Response to the rebuttal of the Medical School of the National and Kapodistrian University of Athens to the initial external evaluation report submitted by the EEC

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Introduction: The EEC appreciates and respects the overall history and contributions of the Medical School of the National and Kapodistrian University of Athens in clinical medicine, medical education and research. The intentions of the EEC critique and the recommendations are designed to help the graduate programs improve and approach the international standards of excellence in graduate education and medical research. It is left to the leadership of the Medical School, the Ministry of Education to best use the EEC findings and recommendations to improve the graduate education and research in the Medical School of Athens as well as the other Medical Schools of the country. The EEC wishes to address six major components of the Medical School rebuttal.

I. Current status of the Master’s programs

A. The external evaluation report classified the 28 graduate programs in three major categories: Programs that are currently excellent, programs that are very good and have the potential to become excellent, and programs that are average to poor and need to improve or can become components of other existing graduate programs. In addition there is a group of programs that will best serve their training purposes as components of Clinical Fellowship programs for MDs that exist in Medical Schools of North America and Europe. The EEC recommends to the Ministry of Health and the Greek government the establishment of such programs.

Based on the rebuttals we received, we surmise that programs that belong in the first two categories accepted reasonably well the evaluation report and the recommendations of the EEC and suggested some minor corrections that were introduced into the report.

The EEC does not consider it necessary to respond to the positive comments it received from these programs, except to thank the program directors involved.

B. All the programs that did not receive favorable evaluation wrote lengthy rebuttals in their defense.

The Cardiopulmonary Resuscitation Program indicated that it has infrastructure qualified faculty, and an experimental unit that facilitates research in animal models. It also indicated it has collaborations
with the Universities of Cagliari, Chicago, Karolinska, the ERC and AHA and participates in the International Liaison Committee on Resuscitation for the formulation of the 2015 guidelines.

The **Organization and Management of Palliative and Supportive Care for Chronically Ill patients Program** indicated that it has international standards qualified faculty and provides 200 hours of clinical practice to the students.

The **Thrombosis and Hemorrhage program** indicated that it has specialized faculty and offers practical training in reference laboratories. It cited existing collaborations with with the BRFAA, the National Blood Center and the Athens Medical Center and plans to establish international collaborations.

The **Reproductive and Regenerative Medicine Program** cited the qualifications of the participating Greek and international faculty, willingness to extend the duration of the program to 18 months and to work towards the creation of PhD level studies. It pointed out that the Reproductive Medicine Division of the Department is accredited by EBCOG/ESHR and that there are no clinical fellowship programs in Greece. Most of the information provided in their rebuttal letter was not included in the external evaluation report and the presentation at the site visit.

The **Stress Management and Health Promotion** indicated that it is unique, innovative and multidisciplinary, it is designed to promote new scientific knowledge and research in the field of stress, to provide health professionals with stress expertise and thus has clinical and social relevance. It pointed out that 40% of its graduates are engaged in basic and public health research and that there are undergraduate courses on stress and an MSc Program in London, while this subject is not covered sufficiently at the undergraduate level or during the residency training in Greece.

The **Minimally Invasive Surgery, Robotic Surgery & Telesurgery Program** cited the poor facilities and minimal financial support provided by the Greek State. It indicated that the program provides beneficial matching of new evolving technologies with their clinical applications and does not have similarities to Basic Science programs but it wishes to award MSc diplomas.

The **Endovascular Disease Program** indicated that in many European countries incorporation of the new knowledge and skills that involve use of Radiation is yet in its infancy. The curriculum of the program follows European directives and it is designed to advance research in cardiovascular disease.

The **EEC** read carefully their comments, modified some of its remarks on the final EEC report and adjusted slightly but did not change drastically its conclusions or recommendations regarding these programs.

II. Merging and collaboration of the programs in order to establish PhD level programs

**A.** Graduate programs in internationally renowned Medical Schools are based on scientific disciplines and they are organized through large interdepartmental collaborations rather than individual incentives. In many of these programs directors rotate through the directorship position while the educational goals and objectives of the program are adjusted regularly. This system promotes excellence and provides the program with a wide range of scientific expertise. For this reason, the EEC recommended that departments with complementary and overlapping curriculums find a formula and take the required initiatives to collaborate in creating discipline-based, strong graduate programs that prepare the best of the Master’s students for doctorate (PhD level) studies using international standards. Novel PhD level programs in the Medical School will advance graduate education and research. In addition they will provide the required interdisciplinary interactions that will allow the individual investigators to promote their own research field, attract qualified graduate students and collaborate with other faculty. This approach avoids duplication of efforts, reduces cost and maximizes efficiency. It is the opinion of the
EEC that establishment of such programs requires academic initiative, critical mass of expert faculty as well as participation of national and international experts. Such initiatives can be undertaken within the existing legislation. However, if needed, initiatives should be taken by all parties involved (Ministry of Education, Medical Schools, Ministry of Health and others involved in policy and legislation) to amend appropriately the existing legislation. Please see page 18 of the external evaluation report on universally accepted standards for the specific area of study and pages 28-34 (section F Final Conclusions and Recommendations) of the prerequisites for the establishment of high quality graduate programs.

B. Based on the rebuttal we received, there were strong objections for merging of individual programs with other related programs and some reluctance for creation of strong Ph.D level graduate programs within individual departments. The Public Health and Social Medicine Programs indicated that the EEC may not have fully appreciated their innovative aspects and their major contribution in new research lines and their role in implementation of policies and suggested that merging will inhibit their development and will jeopardize their international net-working. The Mental health promotion – Prevention of mental disorders and the Liaison Psychiatry: integrated care for physical and mental health Programs indicated that they are collaborating with other medical departments and IIBEA, for the needs of the graduate doctorate research. However, they suggest that the creation of a common program is not feasible because the required training and research objectives of the programs are different but are willing to work together for the implementation of a PhD level research program. Strong objections against merging or collaborations with related programs were raised by the Cardiopulmonary Resuscitation and the Stress Management and Health Promotion program. These programs emphasized their uniqueness and that incorporation into another program would constrain and compromise their objectives.

The EEC read carefully their comments, corrected some points adjusted slightly but did not change drastically its conclusions or recommendations. The opinion of the EEC is that consolidation and collaboration is necessary in order to create few excellent programs, as opposed to maintain numerous average programs. In the context of integrated programs of good quality the individual faculty will have the freedom to develop converging as well as distinct research and training methods that will enable them to attract qualified students as well as to collaborate with others and advance their research field.

III. The Alternative pathway (Individual doctoral training) program

A. The rebuttal for the alternative pathway program indicated the following:

“The program gives the opportunity to the Medical School graduates to participate in biomedical research usually during the internship/fellowship and it resembles the individual doctoral training programs that exist in some other countries. A significant number of doctorate students enter these programs before the initiation of their internships/fellowship. (Often during the several years waiting period to start their internship/fellowship). Their research, that may require inter-departmental collaboration, is published in quality journals and helps in grant applications Many of the doctorate students continue their careers in centers in Europe and in USA. The alternative pathway does not antagonize the existing Master’s programs and does not fail to capture the potential of the students and faculty of the Medical School. Substitution of the individual doctorate program by a clinical research fellowship to run in parallel or independently of the residency or subspecialty training will downgrade the doctorate program.”

The opinion of the EEC is that there are major weaknesses in the alternative pathway (individual doctorate training program) which require remedy. These weaknesses are:
a) The individual doctorate program is a model of the past era that has not evolved to meet the international standards of excellence in graduate education
b) Selection of the doctorate students is not transparent and open to all qualified Medical School graduates of Greece who might wish to compete for a position (as it is the case for the Master’s programs).
c) There is lack of structure, lack of properly supervised laboratory training or advanced courses in medical sciences. The lack of clear rules for the organization and operation of this program resulted in the accumulation of 3650 registered students. The majority of these students were aspiring to obtain some time a doctorate degree with minimum effort and qualifications. The fact that residual programs of this kind exist elsewhere does not justify its perpetuation in Greece, because they are of lower educational quality.
d) The overlap of the clinical training (residency) and research training that leads to a doctorate degree is a liability rather than an asset. It is obvious that clinical training (residency) and research training that leads to a doctorate (Ph.D. level) degree are full time jobs and this is the reason that quality training programs of both categories in North America and Europe keep them separate and distinct. When these two activities overlap the quality of training in both categories is severely compromised. The research fellowship training that MDs receive in North America during their specialty training does not overlap with the clinical training and does not award any graduate degree but it is recognized for the training it provided to its fellows.

The Medical School can exploit the waiting period between graduation and residency and encourage the most talented medical students to enter well structured graduate programs and pursue a rigorous graduate education and training as described in the external evaluation report. This way, well-trained graduate students of these programs can advance the important areas of biomedical research that takes place in the Medical School and help the faculty attract research grants.
e) Providing an easy way to obtain a doctorate degree through the existing alternative pathway program removes the incentive of the majority of the medical school graduates to engage in serious and demanding graduate programs, thus promoting convenience, and fails to utilize optimally their academic potential. As indicated in the recommendations (Section F) the expectation of the EEC is that as the individual Master’s programs mature and their qualities improves, they will provide sufficient number of candidates for the doctorate programs, and will eliminate the need to have the individual doctorate training program.

B. Comparison of the individual doctorate training program with the universally accepted standards

In contrast to the individual doctorate training program, the internationally accepted standards for PhD level programs dictate that these programs select competitively the best students who apply for admission and have a critical mass of expert faculty in different fields of medical sciences. The faculty members teach courses and train the students in modern biomedical techniques in their laboratories (through the rotation system) for a period of 1-1.5 years. The students that pass qualifying exams have an absolute freedom to select what they consider to be the best laboratory in the area of their research interests to do their Ph.D. thesis work that will lead to a Ph.D. degree.

C. Recommendation of the EEC. The basic elements of the Ph.D. level graduate program of the Medical School should include a minimum of 1.5 years of advanced courses taught by experts, two laboratory rotations in research laboratories (including those of the Research Institutes) and a Master’s thesis followed by a Ph.D. thesis work in any clinical or basic laboratory that the students select. Having prior
training in basic research will help the students to transfer technology from the basic to the clinical laboratories. Students trained in this way will transfer their knowledge and expertise to clinical departments and will train the next group of Ph.D. candidates. In addition they will upgrade the translational potential of basic research efforts.

IV. Financial viability and sustainability of the programs. The rebuttal indicated that under the austerity conditions there is lack of financial support from the government and difficulty in raising funds from the private sector for the graduate programs. Furthermore it was correctly pointed out that creation of full time PhD level programs comparable to those that exist in North America and Europe require that the PhD candidates receive a stipend. For this reason the EEC recommended to the Ministry of Education and the Greek government the establishment of competitive support mechanisms for the graduate PhD level programs based on excellence. These funding mechanisms will also serve the purpose of selecting only the best programs to continue their operation in the future. Part time programs directed towards the education and training of MDs, nurses and other health care or public health professionals that lead to MCSc degrees as well as lifelong learning programs may continue to apply tuition as long as other sources of support are not available.

V. Future plans of the Medical school for the graduate programs. Attached to the rebuttal were 1) four annexes that provide academic and legal information, 2) a draft proposal written by Dr N. Anagnou describing the structure of a new PhD program, and 3) procedures for establishment of Master’s and PhD programs.

The EEC members appreciate having this information (academic and legal), but wants to emphasize that its members know from personal experience how the graduate programs were established and how they operate. The basic elements of Dr. Anagnous’ proposal are: One and a half year advanced courses, two laboratory rotations and Master’s thesis in a laboratory. The details need to be ironed out. The EEC believes that this will also be a good model for creation of strong PhD level programs by the top of 6 to 8 currently running Master’s program in collaboration with the Research Institutes.

VI. Comments of the Medical School on their research activities, the associated difficulties and their strategic plans to advance graduate education and research.

The rebuttal pointed out that the research in the Medical School and the reported accomplishments of the faculty have been achieved under harsh financial conditions. They point out that there are limited and irregular calls for national grants, delays in the allocation of funds coupled with bureaucracy in their administration. There is also lack of next generation technology, which limits the ability of the investigators to attract competitive EU and international grants, as well as limited access of most of the researchers to high-impact scientific journals. All these factors inhibit the incentives for research, hinder efforts for short- or long-term project planning and result in lower research productivity as compared to the U.S. and European universities and research institutes.

Despite these negative factors the leadership of the Medical School and individual faculty indicated that they are making great efforts to overcome these difficulties, to attract funding from different sources and to produce the best possible research.

The rebuttal also points out that during the 2006-2010 period the Medical School generated over 4,400 publications which is much higher than the average of the Greek Universities. Efforts will continue to improve the quality quantity and the impact of the publications in the coming years.
It also indicated that several of the recommendations of the EEC can be implemented immediately or are in the process of implementation. These include:

a) Monitoring the publication records and Impact factors of the faculty and using these parameters for purposes of promotion and new recruitments.

b) Apply impartial and meritocratic procedures for recruitments and promotions of faculty.

c) Commitment to recruit, when new positions become available, (in addition to the clinical faculty), basic and translational faculty of high caliber.

d) Appoint a Research Committee to implement the School's strategic plans for research and for research infrastructure and attract the required funding for their implementation.

e) Continue efforts to secure funding for the recruitment of outstanding faculty that will help boost the research environment of the Medical School and its innovation potential. For this purpose the School will reapply for an ERA Chairs grant, in the 2020 Horizon program in order to attract outstanding researchers and provide them with the necessary support to reach scientific excellence and thus contribute in the creation of a competitive research environment.

f) Upgrade existing and establish new state of the art Research Infrastructures including a Core Bioresearch Facility (CBF) that provides cutting edge technology services, and the development of the Greek Research Infrastructure for Personalized Medicine (pMedGR).

g) Pursue collaborations with research centers (BSRC Fleming, BRFAA) and the creation of research infrastructures (BBMRI, INFRAFRONTIER-GR, BIOIMAGING-GR).

h) Create innovative state-of-the-art Doctorate (PhD level or MD/PhD programs) in collaboration with Biomedical Sciences Research Center "Alexander Fleming".

i) Create similar state-of-the-art innovative doctoral (PhD level) programs in areas that have critical mass of experts including a personalized medicine program.

The **EEC** hopes that the Medical School leadership will follow up on the initiatives outlined in sections V and VI and encourages them to do so.

The **EEC** is aware of the difficulties associated with funding and the lack of research infrastructure, commends the Medical School for the overall research output under harsh economic conditions and makes recommendations to the General Secretariat of Research and Development the Ministry of Education and the Greek government to correct as soon as possible the existing deficiencies. The **EEC** also wishes to thank the leadership and the faculty of the Medical School for adopting the recommended policies on research, infrastructure, meritocratic recruitments and promotions of faculty, creation of innovative Master’s and PhD level graduate programs. The **EEC** looks forward to the successful implementation of their strategic plans and wishes to the Medical School success.

**The Members of the Committee**

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