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ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΣΤΗΝ ΑΝΩΤΑΤΗ ΕΚΠΑΙΔΕΥΣΗ

HELLENIC REPUBLIC  
HQA  
HELLENIC QUALITY ASSURANCE  
AND ACCREDITATION AGENCY

**Accreditation Report**  
**for the Undergraduate Study Programme of:**  
**Medicine**  
**National and Kapodistrian University of Athens**  
**Date: 14/12/2019**

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**Επιχειρησιακό Πρόγραμμα**  
**Ανάπτυξη Ανθρώπινου Δυναμικού,**  
**Εκπαίδευση και Διά Βίου Μάθηση**  
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



Report of the Panel appointed by the HQA to undertake the review of the Undergraduate Study Programme of **Medicine of the National and Kapodistrian University of Athens**, for the purposes of granting accreditation

## TABLE OF CONTENTS

<b>Part A: Background and Context of the Review</b> .....	<b>4</b>
I. The Accreditation Panel .....	4
II. Review Procedure and Documentation .....	5
III. Study Programme Profile .....	8
<b>Part B: Compliance with the Principles</b> .....	<b>9</b>
Principle 1: Academic Unit Policy for Quality Assurance .....	9
Principle 2: Design and Approval of Programmes .....	14
Principle 3: Student- centred Learning, Teaching and Assessment.....	18
Principle 4: Student Admission, Progression, Recognition and Certification .....	22
Principle 5: Teaching Staff .....	25
Principle 6: Learning Resources and Student Support .....	27
Principle 7: Information Management .....	29
Principle 8: Public Information .....	31
Principle 9: On-going Monitoring and Periodic Internal Review of Programmes .....	32
Principle 10: Regular External Evaluation of Undergraduate Programmes.....	34
<b>Part C: Conclusions</b> .....	<b>36</b>
I. Features of Good Practice .....	36
II. Areas of Weakness .....	36
III. Recommendations for Follow-up Actions.....	37
IV. Summary & Overall Assessment .....	37

## **PART A: BACKGROUND AND CONTEXT OF THE REVIEW**

### **I. The Accreditation Panel**

The Panel responsible for the Accreditation Review of the undergraduate programme **Medicine of the National and Kapodistrian University of Athens**, comprised the following five (5) members, drawn from the HQA Register, in accordance with the Law 4009/2011:

- 1. Prof. Nikolaos Venizelos (Chair),**  
Örebro University, Örebro, Sweden
  
- 2. Prof. Dimitris Grammatopoulos,**  
University of Warwick, Warwick, United Kingdom
  
- 3. Prof Constantin Polychronakos,**  
Mc Gill University, Montreal, Canada
  
- 4. Prof Thanos Tzounopoulos,**  
University of Pittsburgh, Pittsburgh, United States of America
  
- 5. Dr Apostolos Mandrekas,**  
Representative of the Panhellenic Medical Association, Greece

## II. Review Procedure and Documentation

The members of the Accreditation Panel (AP) for the undergraduate program of Medicine of the National and Kapodistrian University of Athens (NKUA) were selected by the Hellenic Quality Assurance and Accreditation Agency (HQA/ΑΔΙΠ) in August 2019. Official invitation letters were sent on October 17, 2019. The accreditation procedure was scheduled for the period 8<sup>th</sup>-14<sup>th</sup> of December, with a site visit the 9<sup>th</sup> and 10<sup>th</sup> of December. After formal acceptance of the invitation, panel members received the relevant documentation from HQA, including the previous external evaluation report and guidelines regarding the purpose and standards for quality accreditation of undergraduate programs. The HQA also forwarded to AP, a comprehensive excellent documentation provided by the Medical School related to the structure and organization of the NKUA and the Medical School. The provided documents included the Study guide, a detailed description of the courses offered in each semester, departmental rules and regulations, strategic planning of the School, internal quality assurance policies, examples of questionnaires assessing quality of teaching and internal evaluation reports.

The Accreditation Panel met in the morning of December 9<sup>th</sup>, 2019 at a conference room of the Royal Olympic Hotel, 28 Athanasiou Diakou, str., Athens. The members were briefed by Prof. Kyprianos, President of HQA, and Dr. Christina Besta, General Director of HQA, on the mission, procedures, principles and guides of standards of quality assurance (QA) of the accreditation process.

In the afternoon, the AP members were transported to NKUA, Panepistimiou 30 Athens, where they met with Assoc. Prof. Dimitris Karadimas, Vice Rector for Academic and Student Affairs/President of MODIP. During this meeting they received a short overview from Konstantinos Bourletidis, Secretary/General Coordinator of the Quality Assurance Unit of the University of Athens, regarding the assembly, procedures and working principles of MODIP.

Then, the AP members moved to the “KOSTIS PALAMAS” building, where they met with Prof. Petros Sfikakis, Dean of the Medical School, and representatives of the Internal Evaluation Group (IEG/OMEA) and MODIP.

Prof. Petros Sfikakis, initiated the meeting by describing the Undergraduate Programme (history, academic profile) current status, strengths vision, and possible areas of concern, and concluded his presentation by describing the School’s approach to compliance of the Undergraduate Programme to the Standards for Quality Accreditation and how the School addressed recommendations of 2014 evaluation.

OMEA representative Assoc. Prof. Gerasimos Siasos, Vice President of the Medical School of Athens, presented the progression plan of students’ path from admissions to receiving the Degree. Assoc. Prof. Maria Gazouli and Prof. Dimitrios Boumbas briefed us on the central philosophy, implementation structure and critical evaluation of preclinical and clinical courses of Undergraduate Programme. Assoc. Prof. Theodoros Papaioannou briefed us on the

monitoring and internal evaluation. Prof. Emmanouil Pikoulis, described the public information websites of clinical laboratories, internal network for members of the school as a means for information and two-way communication with students and Prof. Charalambos Vlachopoulos, briefed us on ongoing research projects and innovations. Participants at the meeting were also the OMEA members, Prof. Pantelis Karaiskos, Prof. Pagona Lagiou, Prof. Charalambos Papageorgiou, Assoc. Prof. Anastasios Filippou, Assoc. Prof. Ypatia Dousi-Anagnostopoulou and the Head Secretary of the Medical School Dr. Eleni Vasilopoulou.

MODIP members Assoc. Prof. Dimitris Karadimas, Vice Rector for Academic and Student Affairs and President of MODIP, Konstantinos Bourletidis, Secretary of MODIP, Sofia Krousaniotaki and Viktoria Kasviki, Administrative support of MODIP, and Klea Katsouyanni, Prof. of the Medical School, Administrative Committee of MODIP, were present during the meeting.

In the morning of December 10<sup>th</sup>, the AP visited the Medical School, Attikon University Hospital campus, Chaidari, where (A.K.I.S.A building) the AP met with academic staff members, followed by students and graduates of the Medical School, as well as with stakeholders. Prof. Vasiliki Papaevangelou, briefed the AP on the structure of clinical practice work and research education – today challenges, future objectives and interactions with society. The links between teaching and research, teaching staff's involvement in applied research, projects and research activities directly related to the programme were also mentioned. Next on the AP met 14 senior medical students during their clinical teaching and practice time, and discuss their study experience, facilities of the Department/Institution etc. The meeting continued with 7 graduates (residents and scholars) at Attikon University Hospital campus, discussed their academic experience of studying and career path.

The AP concluded their visit at A.K.I.S.A building by meeting with deputy mayor of Chaidari Municipal where the strong connections of the university hospital with the community were discussed.

Subsequently, the AP members scheduled an ad-hoc visit at the Attikon University hospital's main lecture hall (near to the clinics), where the students attending lectures. During these visits the AP had the chance to meet senior medical students rotating in the Neurology clinics and discuss their training experience with them and their supervisors. The Accreditation Panel members finalized their site visit at Attikon University Hospital campus, by a tour around the buildings and the local hospital's Library.

Next the Accreditation Panel members were transported to Goudi at the Medical School building 13, where they met employers, social partners and external stakeholders from the private and the public sector. The meeting was attended by Representatives from: Patient society-Ekaterini Kondogianni, National Drug Organization-Charis Kandiloros, the Onassis Foundation- personnel director Zoi Gamalia, a representative from the Athens Medical Association, Colonel Konstantinos Pelekanos -Special Crisis Police Division, Sergios Stamboulis-Ygeia Hospital, a representative from the "Alexander Fleming, Biomedical Sciences Research Center"- and deputy chief executive officer Mrs Eglezopoulou from the Laikon Hospital.

The AP completed their site visit by a meeting with the Prof. Petros Sfikakis, Dean and Head of the Medical School, and representative members of the Internal Evaluation Group (OMEA) and MODIP, to discuss initial impressions/findings/from the visits and interviews, which needed further clarification. The AP closed the meeting with the informal presentation of key findings.

The AP wants to emphasize the warm reception and hospitality they were offered, as well as the professionalism, honesty, receptiveness and open-mindedness of the faculty and students. The members of the academic community were actively engaged in the accreditation process. The faculty and administrative staff were well prepared for the accreditation process and facilitated and supported the work of the AP.

The AP express their gratitude to Prof. Petros Sfikakis, Dean and Head of the Medical School, and to all other members of OMEA and MODIP, and the Secretariat of the Faculty, for data presentations and for organizing a highly efficient site-visit.

During the period 11<sup>th</sup> to 13<sup>th</sup> of December 2019, the Accreditation Panel members put together the draft Accreditation Report.

## II. Study Programme Profile

The University of Athens, inaugurated in 1837, was the first university not only in Greece but also in the Balkans and the Eastern Mediterranean. It was officially named National and Kapodistrian University of Athens in 1932, in honour of Ioannis Kapodistrias, the first governor of Greece. Until the early part of the 20th century, it was the only university in Greece that provided the Greek society with qualified professionals in medicine and other disciplines.

National and Kapodistrian University of Athens (NKUA) has offered the country a centre of intellectual production. One of its most important contributions is in the national health scheme, since students of the health sciences, under the supervision of professorial staff, offer their medical services to the public.

Today the NKUA consists of 9 Schools and Departments and more than 65,000 undergraduate and post-graduate students.

The School of Medicine inaugurated for the first time in 1837, with the emblem of Asclepius and the rod of Asclepius around written; "*Medical School of the University of Athens*". In 1984 the School of Health Sciences was formed that includes four departments: Medicine, Dentistry, Pharmacy and Nursing.

The School of Medicine is organized into six Divisions: Basic Medical Sciences, Clinical laboratory, Internal Medicine, Surgery, Mother-Child Health, Social Medicine-Psychiatry and Neurology.

The School of Medicine facilities and the basic education of the students takes place in the buildings of the School in Goudi and the clinical education in the majority at the Attikon University Hospital Campus, Chaidari and a number of other clinical sites. For the practical teaching of students 59 Clinics, 28 laboratories and 5 museums in various hospitals are used.

The main education of pre-clinical courses take place in traditional amphitheatres and lecture halls at the School in Goudi (5 lecture halls) and in Attikon Medical School (AKISA) (2 lecture halls).

In the Medical School of the National and Kapodistrian University of Athens are currently enrolled: teaching staff 552 (Μέλη ΔΕΠ), Professors, Assoc. Professors, Ass. Professor and Lectures (202 women and 350 men), 2.983 undergraduates, 3.512 graduate students, 2.352 doctoral candidates. The administrative staff sums to a total of 129 (110 in laboratories, 19 at the school secretariat)

The Medical School of Athens offers 6 year Undergraduate Medical Programme, and the recent research work contributes that the School is the leading medical school in Greece and the Balkans.

## PART B: COMPLIANCE WITH THE PRINCIPLES

### Principle 1: Academic Unit Policy for Quality Assurance

**INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY AS PART OF THEIR STRATEGIC MANAGEMENT. THIS POLICY SHOULD EXPAND AND BE AIMED (WITH THE COLLABORATION OF EXTERNAL STAKEHOLDERS) AT ALL INSTITUTION'S AREAS OF ACTIVITY, AND PARTICULARLY AT THE FULFILMENT OF QUALITY REQUIREMENTS OF UNDERGRADUATE PROGRAMMES. THIS POLICY SHOULD BE PUBLISHED AND IMPLEMENTED BY ALL STAKEHOLDERS.**

*The quality assurance policy of the academic unit is in line with the Institutional policy on quality, and is included in a published statement that is implemented by all stakeholders. It focuses on the achievement of special objectives related to the quality assurance of study programmes offered by the academic unit.*

*The quality policy statement of the academic unit includes its commitment to implement a quality policy that will promote the academic profile and orientation of the programme, its purpose and field of study; it will realise the programme's strategic goals and it will determine the means and ways for attaining them; it will implement the appropriate quality procedures, aiming at the programme's continuous improvement.*

*In particular, in order to carry out this policy, the academic unit commits itself to put into practice quality procedures that will demonstrate:*

- a) the suitability of the structure and organization of the curriculum;*
- b) the pursuit of learning outcomes and qualifications in accordance with the European and the National Qualifications Framework for Higher Education;*
- c) the promotion of the quality and effectiveness of teaching;*
- d) the appropriateness of the qualifications of the teaching staff;*
- e) the enhancement of the quality and quantity of the research output among faculty members of the academic unit;*
- f) ways for linking teaching and research;*
- g) the level of demand for qualifications acquired by graduates, in the labour market;*
- h) the quality of support services such as the administrative services, the Library, and the student welfare office;*
- i) the conduct of an annual review and an internal audit of the quality assurance system of the undergraduate programme(s) offered, as well as the collaboration of the Internal Evaluation Group (IEG) with the Institution's Quality Assurance Unit (QAU);*

### Study Programme compliance

The School of Medicine of the National and Kapodistrian University of Athens (NKUA) is committed in delivering excellent quality higher education in Clinical Medicine as well as educating students in all emerging scientific areas related to Medicine, ranging from basic bioscience to applied health related science. A key objective of the School is the development of a vibrant environment to pursue research activities. The School of Medicine is committed to support continuous development of the academic faculty and supporting staff. This is a strategic direction and responsibility of the School of Medicines' leadership.

The School of Medicine is fully embedded in the social fabric of Athens, a major world destination and metropolis, and has a significant contribution and influence in health and social matters of the Attica vicinity where almost 40% of the Greek population live.

To safeguard and promote its mission the School of Medicine established a Quality Assurance Policy, found online on

<https://school.med.uoa.gr/fileadmin/depts/med.uoa.gr/school/uploads/Images-Documents/>

2.PARARTIMA\_ POLITIKI\_ POIOTITAS\_PPS\_IATRIKIS\_SCHOLIS.pdf describing the principles of the University Policy: key academic members of MODIP, responsibilities and policies, members and processes of internal evaluation mechanism, aims and relevant targets of the continuous quality assurance methods, regular updates according to up-to date trends and requirements, methods of data collection, the curriculum description.

Overall the AP feels that the policy is appropriate for the programme and adds value, mostly by monitoring a number of key parameters in learning objectives and student satisfaction. The programme is designed to safeguard key strategic learning priorities of the School of Medicine based on the traditional model of Clinical Medicine teaching and is built around strategy, skills and shared values of the School of Medicine.

The structure and organization of the study programme appears suitable to the teaching programme objectives of the School of Medicine. The learning objectives, outcomes and qualifications are in accordance with the European and the National Qualifications Framework for Higher Education. The curriculum has been extensively revised following the External Evaluation in 2014. Notably, the School of Medicine's Chairman Prof Sfrikakis was extremely proud that the process contributed to the improvement of the curriculum and its delivery. We would strongly recommend that the School of Medicine continues this process of revision on regular intervals to align with the evolving science of Medicine and changing roles of the physician and evolving society needs. There are considerable efforts to promote high quality and effectiveness of teaching, with the ultimate goal of equipping graduates with skills allowing them to be successful in their careers and workplace as well as for their further graduate training. The curriculum appears to be dynamic with aspiration to cover a broad range of thematic areas of Clinical Medicine that will enable graduates to practice as medical doctors. All academic staff are well-qualified and have appropriate background. Evidence from material inspected suggests use of up-to-date information from the literature in their courses. In addition, the teaching environment is substantially enhanced from academic scholars.

One area that the School of Medicine could develop further is the development of retraining mechanisms of the Faculty in expanding areas such as Precision medicine by making available teaching sabbaticals, short visits.

Overall, the system in place seems to be working relatively well and achieving an effective oversight of the above objectives in most cases. On the other hand, the considerable size of the School of Medicine and the fragmented delivery of the curriculum at multiple sites prevents complete coverage and effective monitoring of educational standards across all departments. The Panel agreed that future revisions of the program could include a mechanism to

quantitatively monitor effectiveness of added measures or implemented changes and ensure standards uniformity.

There is a clear system in place monitoring quality and effectiveness of teaching; this is mainly based on student feedback, internal evaluation report of individual divisions and collection of data relevant to publication records of the faculty as key performance indicators in research. The AP also identified examples of excellent ad-hoc efforts of educational approaches; this should be used to set the standards across the School of Medicine. The questionnaires were appropriate for capturing relevant information. The AP also received some information how the collected data are analyzed, evaluated; although, it is not clear how this data is actioned in the General Assembly meetings. In addition, information from the student interviews painted a mixed picture in terms of satisfaction with the quality of teaching they received. For many of these students, studying Medicine at NKUA set them apart from other Medical Schools. They are conscious of the reputation of the School nationally and internationally, which enhances their prospects for achieving their desired professional destination.

Due to the limited time available the Panel was unable to obtain a birds-eye view of the overall quality performance of the School and assess performance of individual Divisions across the School and identify possible anomalies. Possible future improvement of the monitoring system could include an anonymized clear action matrix providing a detailed list of issues identified, action taken and impact of the change. In addition, the School should consider introduction of a mandatory peer to peer observation scheme to support the development of all academic educators and enable greater sharing of skills and experience across the School of Medicine.

The AP assessed the published CV of a representative sample of faculty staff. CVs examined confirmed qualifications and experience were appropriate for the academic level of the faculty. Of some concern is the finding that the School of Medicine appears top-heavy with a declining number of assistant professors, academic grade crucial for achieving educational and teaching flexibility and introduction of new ideas and technologies. Both faculty staff and students seem satisfied with the qualifications and skills mix of the academic staff. The Panel believes this provides an excellent base and should be exploited for further quality enhancements. However, it would be important for the School of Medicine to introduce a mechanism of supporting faculty staff (especially junior academic scholar staff) by formalizing the education support offered (for example by offering a teaching certificate) and for OMEA to monitor compliance and regular updates and revisions. Therefore, it would be important to ensure that everyone is adequately qualified to deliver an appropriate standard of training.

The School provided evidence of available mechanisms for monitoring the quantity of publications and total number of citations. The Panel agreed that the research and publication output, as judged by total number of publications and citations, is satisfactory and shows consistent upward trends despite the adverse economic environment. We also recommend to shift focus from quantity to quality of publications and efforts to increase the average staff h-index. The School should be aware that international standards of monitoring research outputs place more emphasis on quality of publications (i.e., limited number of best publications rather

than the total number of publications) and therefore there should be a repositioning of the focus of monitoring mechanisms.

A chronic decline of staff numbers coupled with an excessive number of undergraduates per yearly cohort result in a situation where existing staff spend an ever-increasing amount of time in teaching (in addition to their clinical commitments for clinical staff); inevitably this represents a major threat for the long term ability of staff to pursue and deliver high quality research.

Generally the Panel felt that academic faculty are keen to support and deliver the School's strategic education goals around Education and Research, although mentioned examples of resistance might slow down the speed to curriculum reforms and practices. Opportunities are available for students to engage in research especially in clinical research, which is the main thrust of the School's research and most initiatives are centered around ad-hoc engagements and summer projects. Both interviewed staff and students recognize the important role of research in advancing teaching and in practice this is achieved since a number of ex-students follow academic careers. Moreover, due to time limitations of the schedule, the Panel did not have the opportunity to visit pre-clinical laboratory facilities and assess equipment in the research laboratories that allows exposure and often training of undergraduates in state-of-the-art equipment and analytic methodologies.

Although adequate at present, it is recommended that the School considers developing a more ambitious plan and offer more structured opportunities to undergraduate students for research training through introduction of dedicated research modules or even an optional thesis completion based on a research project. Increasingly, research is fully embedded by modern School of Medicine curricula and therefore this would be an excellent opportunity to deliver the integrated research-teaching vision the School of Medicine has. This also offers the additional benefit of shaping undergraduate training around local research expertise and thus developing the School of Medicines' portfolio of unique selling point (USP) of research.

Overall, there seems to be a substantial volume of documentation and internal structures in place to monitor quality assurance system. Annual reviews are carried out with the description of strategic targets, quality targets, relevant metrics and weighting, proposed actions and delegation of relevant staff and proposed timelines. This could be improved by adding another measurement for assessing the effectiveness of the proposed targets.

In general the overall quality framework seems rather complicated and could benefit from application of Lean principles.

## Panel judgement

Principle 1: Institution Policy for Quality Assurance	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

## Panel Recommendations

We would strongly recommend the School of Medicine to:

- Continue the process of revision on regular intervals to align with the evolving science of Medicine and changing roles of the medical doctor and different society needs. Future revisions of the program could include (a) a mechanism to quantitatively monitor effectiveness of added measures or implemented changes and ensure standards uniformity; (b) an anonymized clear action matrix providing a detailed list of issues identified, action taken and impact of the change. In addition, the School of Medicine should consider introduction of a mandatory peer to peer observation scheme to support the development of all academic educators and enable greater sharing of skills and experience across the School.
- Further development of retraining mechanisms of the Faculty in expanding areas such as Precision medicine by making available teaching sabbaticals, short visits.
- Consider developing a more ambitious plan and offer more structured opportunities to undergraduate students for research training through introduction of dedicated research modules or even an optional thesis completion based on a research project.

## Principle 2: Design and Approval of Programmes

**INSTITUTIONS SHOULD DEVELOP THEIR UNDERGRADUATE PROGRAMMES FOLLOWING A DEFINED WRITTEN PROCESS WHICH WILL INVOLVE THE PARTICIPANTS, INFORMATION SOURCES AND THE APPROVAL COMMITTEES FOR THE PROGRAMME. THE OBJECTIVES, THE EXPECTED LEARNING OUTCOMES, THE INTENDED PROFESSIONAL QUALIFICATIONS AND THE WAYS TO ACHIEVE THEM ARE SET OUT IN THE PROGRAMME DESIGN. THE ABOVE DETAILS AS WELL AS INFORMATION ON THE PROGRAMME'S STRUCTURE ARE PUBLISHED IN THE STUDENT GUIDE.**

*Academic units develop their programmes following a well-defined procedure. The academic profile and orientation of the programme, the objectives, the subject areas, the structure and organisation, the expected learning outcomes and the intended professional qualifications according to the National Qualifications Framework for Higher Education are described at this stage. The approval or revision process for programmes includes a check of compliance with the basic requirements described in the Standards, on behalf of the Institution's Quality Assurance Unit (QAU).*

*Furthermore, the programme design should take into consideration the following:*

- *the Institutional strategy*
- *the active participation of students*
- *the experience of external stakeholders from the labour market*
- *the smooth progression of students throughout the stages of the programme*
- *the anticipated student workload according to the European Credit Transfer and Accumulation System*
- *the option to provide work experience to the students*
- *the linking of teaching and research*
- *the relevant regulatory framework and the official procedure for the approval of the programme by the Institution.*

### Study Programme compliance

The undergraduate (UG) programme of the School of Medicine of the National and Kapodistrian University of Athens (NKUA) aims to deliver a complete and state-of-the-art knowledge of the science of Medicine focusing on key educational, scientific, societal, humanitarian and professional aspects of the role of the medical doctor. Acquisition of fundamental knowledge relevant to the role of general physician represents the cornerstone of the program that aspires to develop interlinked expertise in pre-clinical and clinical subjects according to international standards. The latter is important since the School is fully aware that many of its graduates seek postgraduate training and subsequently careers abroad and are extremely proud of their achievements in establishing high profile careers abroad. The School appears to be fully aware of the important role of generating new knowledge and innovation as an instrument to supplement student education and training.

The undergraduate programme follows the strategy of NKUA according to the National Skills Framework of Higher Education. It is built around 59 clinical departments and 28 laboratories and currently it has 2,983 registered students. It is delivered by 552 academic members of staff, around 15—200 academic scholars, and supported by a number of teaching, technical and administrative staff. It was significantly revised following the external evaluation in 2014, taking into consideration many of the observations made by the External evaluation committee. The

emphasis has shifted from traditional classroom teaching towards more clinical and laboratory/practical teaching and minimizing unnecessary overlapping and duplication. In addition, each course has now complete detailed description and learning outcomes. It is noteworthy that the School indicated that the revision took into consideration comments and suggestions from more than 500 students. The revised curriculum includes 60 subjects; theoretical and practical/clinical courses are offered over 6 years, split into 2.5 years of basic/preclinical courses complemented by laboratory practice followed by 3.5 years of clinical teaching and hospital practice. The core curriculum comprises special study modules, 360 European Credit Transfer and Accumulation System (ECTS) (30 per semester including accumulation of 24 credits from optional courses). Student workload is fully compliant with European guidelines for medical departments. The student guide is fully detailed, informative and appropriate with clearly described learning objectives. The Panel felt that overall this educational strategy is appropriate and successfully executed, despite the excessive and unrealistically high number of students entering the programme every year that can ultimately compromise the quality of teaching. In addition to the university campus at Goudi, the clinical parts of the curriculum are delivered by not less than 15(!) hospitals, ranging from large university hospital to small specialist hospitals, spread around the vicinity of Athens. The overall program is compliant with EU standards and reflecting European directives.

The School of Medicine has established a clear procedure of quality policy and assurance to continuously and systematically monitor, improve and enhance the quality of the medical training provided. The mechanism involves interactions across the Schools' General Assembly, the OMEA and the Curriculum Committee through feeding information of the study program and advising in curriculum issues for both teachers and students. Information is collected by either electronic or hard copy questionnaires, although current practice favors hard copies over electronic data returns at a ratio of 4:1. Electronic copies are deposited in the <https://eclass.uoa.gr/> and <https://survey.uoa.gr> databases. Both standardized and custom-made templates are used. The academic staff mentioned that on average 35% of students are actively involved in the process a percentage that could be improved. Evidence of the effective use of this approach was provided during the recent curriculum revision, where a number of ideas and observations by students' feedback shaped the final revisions. However, at present it is not clear how frequent the curriculum revision is or how the School uses collected data. Quality standards are communicated and approved by the general meeting of the faculty members and the appropriate University authorities. The School through its General Assembly and Curriculum Committee takes into account new trends in medical practices and adapts, when needed, through the addition of optional courses to respond to particular needs or initiatives (for example the initiative in Precision Medicine). However, it seems that there is no mechanism to compare the effectiveness or the revision of their curriculum with other Schools of Medicine within Greece or elsewhere. This could include regular evaluation by external members from other faculties both in Greece and abroad. Overall the Panel considers the system in place is appropriate.

The curriculum is built around didactic lectures and training in clinical skills into small groups, group tutorials. There are also some examples of problem-based learning (PBL) initiatives. Both students and faculty reported that attendance to courses is generally high, although there are small numbers of courses in which attendance is low likely related to the quality of teaching. The Panel recommends that attendance to courses should be a quality criterion and emphasis and further implementation of support should be given to improve courses that fail to attract high number of students. Another important point identified was that frequently, attendance is

blocked by students' motions or strikes for a wide variety of reasons. Such practices do not belong to the educational framework of the 21<sup>st</sup> century and should be discouraged and rejected by students themselves because ultimately can harm students educational experience and disrupt their learning path.

The students successfully progress throughout the stages of the program as translated by the high percentage (around 71%) of students graduating within 6 years. The average study period at the School of Medicine is 6.5 years which is truly excellent. Students have ample opportunities to acquire experience in real hospital care conditions and develop skills in acute and emergency medicine, bedside manners and other clinical activities in the hospital environment in addition to their clinical training. Unfortunately, the fragmented landscape of clinical training as delivered by 15 hospitals and multiple clinical departments can prevent harmonization of the process. These are some excellent examples (such as the Neurology dept.) where there is clear description of setting minimum standards of student exposure to a variety of clinical cases and also pre-defines the minimum clinical skills students need to acquire during their clinical rotation. This should become the baseline practice and spread across all departments. The Panel would advise the School to establish communication with students to strengthen student understanding of the clinical skill matrix required and have an appropriate monitoring pathway.

The School of Medicine of the NKUA has an extremely strong research component and is the highest ranked Medical School nationally with a very high international research profile. The School of Medicine consistently contributes around 40% of the NKUA total research income. This creates many opportunities for the students not only to get exposed but also to actively participate in research (mostly clinical research) projects. Moreover, through several optional courses and also active participation in individual clinical departments, students can learn how to conduct a bibliographic search on PubMed and to critically analyze scientific articles on specific topics. The Panel were particularly impressed by examples presented that highlighted participation of undergraduate students in high impact publications. One potential area of improvement is the formal introduction of research focused activities as well as audits or clinical service evaluation as part of the curriculum (as mini-projects) or even introduction of a research thesis as part of the course. Certainly, the size and research activity of the faculty can ensure success of such initiatives. The School also takes advantage of the IDEAL and ERASMUS+ programmes and the Panel was pleased to see an increasing number of incoming students over the past two years in addition to the steady number of outgoing students. This can certainly enhance the international profile of the School and its outlook perspective. During the visit a number of examples mentioned about involvement of students in international research-training activities. These are mostly ad-hoc and individual academic based. The Accreditation Panel would recommend the School to prioritize international exposure of students to research by creating exchange programs and setting up awards for international visits. This should encourage faculty members use more structured communication paths to advertise training possibilities for research for the UG students.

In addition, the School of Medicine has an extensive role in public engagement activities and it is pleasing to observe active participation of UG students.

## Panel judgement

<b>Principle 2: Design and Approval of Programmes</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## Panel Recommendations

We appreciate that educational experience of the School is compromised by the unrealistically high number of students entering the School each year and the fragmented landscape of multiple clinical training sites that prevent educational practice harmonization. Although we appreciate both these issues are outside the University' control, we strongly recommend that the University engages with appropriate authorities to re-evaluate and correct this situation. For a country that boasts one of the highest percentage of doctors per 1,000 people worldwide, enrolling an excessive number of medical students is a waste of public money and directly benefits healthcare systems of other countries that enjoy access to high quality doctors free of charge.

It seems that there is no mechanism to compare the effectiveness or the revision of their curriculum, and such a mechanism should be implemented as soon as possible. This could include regular evaluation by external members from other faculties both in Greece and abroad.

The Panel recommends that attendance to courses should be a quality criterion and emphasis and further implementation of support should be given to improve courses that fail to attract high number of students.

Best practice educational and clinical training examples should be identified and used to improve practices across all departments.

The School should consider the formal introduction of research focused activities as well as audits or clinical service evaluation as part of the curriculum (as mini-projects) or even introduction of a research thesis as part of the course. Also, to prioritize international exposure of students to research by creating exchange programs and setting up awards for international visits.

The concept of mentor-tutor is an extremely important and useful concept and although the pilot program did not achieve expected outcomes, it is worth revising it taking into account previous experiences.

### Principle 3: Student- centered Learning, Teaching and Assessment

**INSTITUTIONS SHOULD ENSURE THAT THE UNDERGRADUATE PROGRAMMES ARE DELIVERED IN A WAY THAT ENCOURAGES STUDENTS TO TAKE AN ACTIVE ROLE IN CREATING THE LEARNING PROCESS. THE ASSESSMENT METHODS SHOULD REFLECT THIS APPROACH.**

*Student-centred learning and teaching plays an important role in stimulating students' motivation, self-reflection and engagement in the learning process. The above entail continuous consideration of the programme's delivery and the assessment of the related outcomes.*

*The student-centred learning and teaching process*

- *respects and attends to the diversity of students and their needs, enabling flexible learning paths;*
- *considers and uses different modes of delivery, where appropriate;*
- *flexibly uses a variety of pedagogical methods;*
- *regularly evaluates and adjusts the modes of delivery and pedagogical methods aiming at improvement*
- *regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys;*
- *reinforces the student's sense of autonomy, while ensuring adequate guidance and support from the teaching staff;*
- *promotes mutual respect in the student - teacher relationship;*
- *applies appropriate procedures for dealing with students' complaints.*

*In addition :*

- *the academic staff are familiar with the existing examination system and methods and are supported in developing their own skills in this field;*
- *the assessment criteria and methods are published in advance;*
- *the assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary is linked to advice on the learning process;*
- *student assessment is conducted by more than one examiner, where possible;*
- *the regulations for assessment take into account mitigating circumstances*
- *assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures;*
- *a formal procedure for student appeals is in place.*

#### Study Programme compliance

The School of Medicine of NKUA is the most sought-after University undergraduate course in Greece and attracts the most highly achieving secondary education pupils. It is disappointing to learn that education of this extremely talented cohort is less than optimal and is disadvantaged through state intervention that inflates the number of students to unsustainable numbers (from 165 students entering through the standard route of national exams to 379 joining them by different set of criteria). This drains resources and puts a heavy teaching load on the academic staff that compromises quality of teaching and outcomes.

The undergraduate curriculum, focuses on a student-centered learning and teaching approaches *for* and *from* the student. Teaching of the key areas of the curriculum is based on

an integrated approach where possible, combining theoretical courses with laboratories or clinical rotations. The revised curriculum places emphasis on early contact of students with clinical practice and introduces modern approaches and principles in the medical curriculum like bioethics, problem-based learning (PBL) (albeit not a widespread practice). There is clear evidence of attempts to modernize a curriculum that stood mostly unchanged over 50 years. Although not all revisions have been successful. Faculty and administration are fully aware that students may have different learning styles and there are examples where faculty tries to accommodate this. Material for all courses is available on line and there is a very detailed description of learning objectives and course structures. This is helpful for the learning process. There are also examples of excellent practice in some parts of clinical training by defining minimum standards of skills required. Students especially from year 2 onwards are extensively trained in theory and practice of different medical specialties especially how to approach patients, take history and perform clinical examination. Teaching involves a variety of learning methods such as lectures, seminars, tutorials, preclinical and clinical training into small groups. Students generally feel satisfied about the quality of teaching although the fragmented landscape of 15 teaching sites that includes University hospitals, ESY hospital hosting academic clinical units does not allow implementation of uniform criteria and quality standards. As a result of this fragmentation, the quality of teaching is uneven and in some clinical units falls below the expected standards. Students are fully aware of this and might use it to their apparent 'advantage', an issue that ultimately impairs the reputation of the School of Medicine. The Accreditation Panel also observed that the objective structured clinical examination (OSCE) method that is widely used by modern curricula in Europe, USA and worldwide has not been established. The Accreditation Panel strongly recommends this type of final examination, which will clearly improve the curriculum in reaching even higher international standards. Overall, the current study program fulfills the needs of the students and provides high flexibility of learning.

The School of Medicine regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys, which helps improving learning methods at all levels. The results of the surveys are in general satisfactory; however no plans were presented for further improvement or enhancement. There are well documented and appropriate assessment criteria and methods in place to ensure that the undergraduate program is delivered in a way that in principle encourages students to actively participate in the learning process. Although at present this appears adequate, the School of Medicine should strive to increase the active participation of all students in their study program but also to introduce measurables of how this works in practice.

Generally, students feel proud of their School of Medicine and medical studies and well prepared to face life and careers as medical professionals and are widely respected by stakeholder and Society in general. This was evident during the Panel discussions with undergraduate and graduate students as well as stakeholders. Several students also participate in educational exchange programs (IDEAL and ERASMUS+). Overall, the students showed maturity and self-confidence and expressed optimism regarding their future potential. It is unfortunate however, that many of the best-qualified students choose to immigrate resulting in vacancies in a large number of resident positions.

In response to suggestions by the Evaluation Committee in 2014, the School of Medicine introduced a pilot scheme of mentor-tutor to support 1<sup>st</sup> year student introduction into clinical practice. Unfortunately, subsequent feedback by staff and students do not support the initial enthusiasm. Although we appreciate that the high number of undergraduates makes

implementation very difficult, the Accreditation Panel considers the concept of mentor-tutor a very important instrument in monitoring and supporting student progress. The Panel encourages the School of Medicine to revise and reintroduce this mechanism. Effective use of this approach can prove to be a very successful method that improves communication and minimizes conflict. Finally, the School of Medicine appears to have in place appropriate procedures to address students' complaints to discuss issues related to performance or examination procedures and grades.

The School of Medicine has recently identified the need to monitor and improve training of the academic staff in order to better fulfill their teaching activities. This is work in progress and there is no significant steps forward have been made to date. Many faculty members have broad academic experience and research activity and are internationally recognized, although this is not by itself a guarantee of effective educational skills and the School of Medicine should intensify efforts to support and improve educational skills. A significant part of the curriculum is offered by academic scholars with documented knowledge and skills that supervise and help students in their day-to-day clinical practice. No major deficiencies or complains were noticed by the Panel. However, the drop in academic staff numbers, especially junior members of faculty in combination with the unsustainably high number of admitted students in the School of Medicine continues to maintain an unfavorable student-to-teacher ratio. This may adversely dilute efforts to focus on small group teaching, one of the major requirements of a modern medical school curriculum. As previously mentioned, this could also affect the time faculty members invest in their research program, especially when it is coupled with an extremely challenging clinical role.

### Panel judgement

<b>Principle 3: Student- centred Learning, Teaching an Assessment</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

### Panel Recommendations

The unsustainably large number of student cohorts that require clinical training in multiple and unequal hospital sites compromises quality of teaching delivered by academic staff of an unfavorably high student: staff ratio. This situation makes it impossible to develop and maintain uniformity of quality standards and deliver educational excellence. The Accreditation Panel urges the School of Medicine and the University to engage with the State to resolve this unsatisfactory situation.

Despite difficulties mentioned above the School of Medicine, working together with students, should identify evidence of best practice (e.g Neurology at Attikon Hospital) and use it as exemplar in an effort to enhance teaching standards uniformity.

The School of Medicine should introduce measures of peer-to peer observations to guarantee of appropriate and effective educational skills across the Faculty.

## Principle 4: Student Admission, Progression, Recognition and Certification

**INSTITUTIONS SHOULD DEVELOP AND APPLY PUBLISHED REGULATIONS COVERING ALL ASPECTS AND PHASES OF STUDIES (ADMISSION, PROGRESSION, RECOGNITION AND CERTIFICATION).**

*Institutions and academic units need to put in place both processes and tools to collect, manage and act on information regarding student progression.*

*Procedures concerning the award and recognition of higher education degrees, the duration of studies, rules ensuring students progression, terms and conditions for student mobility should be based on the institutional study regulations. Appropriate recognition procedures rely on institutional practice for recognition of credits among various European academic departments and Institutions, in line with the principles of the Lisbon Recognition Convention.*

*Graduation represents the culmination of the students' study period. Students need to receive documentation explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed (Diploma Supplement).*

### Study Programme compliance

#### ADMISSION

The admission process is not determined by the Medical School of NKUA, but it is designed and imposed by Greek government regulations. Based on the availability of teaching staff and hospital beds for clinical training, as well as on considerations of competition for the future employability of graduates, the school estimates that 120 new students each year would be ideal. The government, instead, has set the number at 160. This might have been an acceptable compromise, but rather surprisingly the final number is more than doubled (379 this year) by additional admissions and transfers from other schools, other universities and other countries. This has implications for both the number and the quality of the students admitted and needs to be urgently reviewed in detail.

The 160 students allocated by the government are selected on the basis of a country-wide written exam (Panhellenic, Πανελλήνιες) in biology, chemistry, physics and written essay. The exam is standardized throughout Greece and is based on the Λύκειον curriculum (Grades 9-12 of secondary education) on a very precisely defined textbook material, thus favoring memorization over other processes of learning. As the Medical School of NKUA is overwhelmingly the first choice of candidates, only students at the absolutely top tier of exam success are selected. No attempt is made to evaluate suitability of being a physician in terms of personality traits or life experience, by means such as personal essay, interview or CV.

The remaining admissions (240 new students in 2018-19) are admitted through “minister decisions” (υπουργικές αποφάσεις), by recent Λύκειον graduates or students transferred from, or graduates of, other programs. The AP has no reason to doubt (or ways to verify) the fairness

and impartiality of these decisions, but we would rather comment on their rationale, which ranges from quite reasonable to absurd. On the reasonable end of the spectrum are cases using last year's exam result (10% of admissions) winners of international science competitions (one case in 2019) and transfers from other Greek medical schools (a large number). On the opposite end of the spectrum are athletes (22 in 2019) and admissions based on criteria such as health issues, psychiatric problems, a sibling attending the university, being incarcerated or being victims of natural disasters. Many of these cases are transferred from other schools that don't meet the high academic standards of Greek exams or admitted based on a 20/20 grade on the Λύκειον diploma, a grade that is not standardized across Greece, is very subjective, and subject to pressure from the one-on-one relationship of teachers with students and their families. Although some of these criteria might be rationalized on the basis of wider inclusion, most appear irrational.

## MOBILITY

Apart from the transfers, described and commented above, the main instrument of mobility is the Erasmus program that very successfully gives students the opportunity to broaden their horizons by having part of their education and training in other countries.

## PROGRESSION, RECOGNITION AND CERTIFICATION

It appears that progression and final certification of students relies exclusively on exams, mostly written exams. The AP was not presented with any evidence of examining more active forms of learning, such as the grading of term papers or oral presentations to the class. Although these may occur, they do not seem to be taken into consideration in terms of progression and final certification.

The AP was presented with evidence of evaluation of the student during the hands-on training at the clinical units. Some of these units have a very formalized written grid on which the student's performance is placed (for example the Δ' Department of Internal Medicine). However, these rely entirely on 'local' initiatives, are not standardized, are not mandated by the School and do not seem to weigh in terms of progression from one semester to the next or final certification. Feedback to the students on their clinical performance does occur, but it is not mandated and occurs randomly.

Good performance is recognised in different ways. One highly laudable is the publication of review articles written by students, sometimes in international journal and often with the student as first author. At the beginning of the year, there is a ceremony in which the best three in-coming and best three out-going students (on the basis of written exams) are given awards. Various scholarships are also available, based on academic performance.

The final certificate at the end of the studies enables the graduate to practice medicine as a primary general health provider. The certificate is accompanied by a list of all courses taken and passing grades (5-6.5 GOOD, 6.5-8.5 VERY GOOD and 8.5-10 EXCELLENT). It is also accompanied by a Diploma Appendix (Παράρτημα Διπλώματος) with detailed listing of courses and grades. It is not clear that it contains additional information (such as participation in research, or other activities relevant to competency).

## Panel judgement

<b>Principle 4: Student Admission, Progression, Recognition and Certification</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## Panel Recommendations

### ADMISSIONS

The Panel realizes that the statutory admission processes are outside the control of the School. We, nevertheless, consider that one of the obligations of the School is to constantly advocate to the government in favor of rationalizing both the number and the criteria of student admissions.

### PROGRESSION AND CERTIFICATION

Performance at the clinical training rotations ought to be more formalized and based on a standardized grid, preferably supplemented with narrative feedback. It should be shared with the student, obligatory for every clinical unit the student is trained in and a minimum of passing evaluations should be required for progression and graduation.

## Principle 5: Teaching Staff

**INSTITUTIONS SHOULD ASSURE THEMSELVES OF THE QUALIFICATIONS AND COMPETENCE OF THE TEACHING STAFF. THEY SHOULD APPLY FAIR AND TRANSPARENT PROCESSES FOR THE RECRUITMENT AND DEVELOPMENT OF THE TEACHING STAFF.**

*The Institutions and their academic units have a major responsibility as to the standard of their teaching staff providing them with a supportive environment that promotes the advancement of their scientific work. In particular, the academic unit should:*

- *set up and follow clear, transparent and fair processes for the recruitment of properly qualified staff and offer them conditions of employment that recognize the importance of teaching and research;*
- *offer opportunities and promote the professional development of the teaching staff;*
- *encourage scholarly activity to strengthen the link between education and research;*
- *encourage innovation in teaching methods and the use of new technologies;*
- *promote the increase of the volume and quality of the research output within the academic unit*
- *follow quality assurance processes for all staff members (with respect to attendance requirements, performance, self-assessment, training etc.);*
- *develop policies to attract highly qualified academic staff.*

### Study Programme compliance

#### OVERVIEW

The school currently has 552 faculty members, 186 Professors, 232 Associate and 125 Assistant Professors, as well as 9 Lecturers (this level is, apparently, being phased out). This top-heavy distribution is the result of a government-mandated policy of non-replacement of departures, part of the economic austerity of the past 10 years. It is clearly not optimal for the rational distribution of teaching tasks. Given that this distribution reflects appointments made many years ago, the gender balance 202 F / 350 M seems acceptable.

#### RECRUITMENT

The University has a very formalized, committee-based process for evaluating candidates for opening positions (such as they are). This is mandated by government law and is generally accepted as objective, transparent and fair. Evaluation of candidates for “academic scholars” (see definition below) is less formalized and, given the source of the funding, it is to be assumed that the faculty member in charge of the funds has a major role. This would be acceptable.

It is interesting to note two workarounds that the School has, with considerable success, developed to moderate the devastating effect of the no-replacement policy. “Academic scholars” are individuals who are hired with funds from industry-initiated projects. Although, in principle, their main task is to conduct these projects, they are able to contribute quite substantially to teaching (as well as patient-care and research). They have a three-year mandate (renewable after a 6-month hiatus) and appear to be treated as full members of the faculty. Attesting to the success of the School in attracting industry funds, 150-200 such positions are active at any time. The other workaround takes advantage of the fact that when an Assistant or Associate Prof applies for promotion, the promoted position is open to outside competition. If someone other than the existing faculty member is chosen, this has the effect of creating a new

position. The unsuccessful internal candidate does not lose their existing position if they have tenure, which is sought and given earlier.

It is also to be noted that a large part of the training in the clinical units is performed by the residents, who enter these positions without any merit consideration, based solely on their willingness to wait the required period, sometimes of several years, in the waiting list. This is an area of concern, especially since there is little support in assessing and developing teaching skills of non-academic educators.

#### PROFESSIONAL DEVELOPMENT

The School strongly encourages the professional development of the faculty by participating in and organizing conferences and invited lectures. In research, these efforts can be judged by the most reliable outcome, the number and quality of publications by which the School ranks quite highly in the various international ranking schemes. Faculty members are often invited to speak at international conferences. Short or longer paid leaves for sabbaticals, or to attend conferences, seem to be adequate and well-funded (within the context of the general austerity).

Efforts in terms of faculty professional development in medical education are less obvious. Teaching skill development is mentioned without given details or resources.

#### PERFORMANCE ASSESSMENT

There is systematic evaluation, by the students, of courses and of specific faculty members that is well standardized, generally accepted and with a reasonably good rate of responses (some are obligatory). It is a little less obvious how the School itself evaluates more objective criteria of teaching performance. For example, at Attikon Hospital, we were told that certain faculty members do not show up for their lectures on repeated occasions. It is not clear whether the School keeps track of such behaviors and what remedial action is planned or possible (see also item 9).

#### Panel judgement

<b>Principle 5: Teaching Staff</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

#### Panel Recommendations

The School has the responsibility of strongly advocating to the government to abolish the no-replacement policy and to even fund expansion of current staff, to make up for ten years of shortfalls. Appropriate staffing numbers are absolutely essential to deliver the teaching requirements of an over-inflated cohort of students at appropriate quality standards.

The School should advocate the establishment of merit criteria for the selection of residency training position (examinations, interviews, publications) so that the waiting-list system can be abolished. Appropriate selection can ensure high quality educators to contribute to the training.

## Principle 6: Learning Resources and Student Support

**INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER TEACHING AND LEARNING NEEDS. THEY SHOULD –ON THE ONE HAND- PROVIDE SATISFACTORY INFRASTRUCTURE AND SERVICES FOR LEARNING AND STUDENT SUPPORT AND–ON THE OTHER HAND- FACILITATE DIRECT ACCESS TO THEM BY ESTABLISHING INTERNAL RULES TO THIS END (E.G. LECTURE ROOMS, LABORATORIES, LIBRARIES, NETWORKS, BOARDING, CAREER AND SOCIAL POLICY SERVICES ETC.).**

*Institutions and their academic units must have sufficient funding and means to support learning and academic activity in general, so that they can offer to students the best possible level of studies. The above means could include facilities such as libraries, study rooms, educational and scientific equipment, information and communications services, support or counselling services.*

*When allocating the available resources, the needs of all students must be taken into consideration (e.g. whether they are full-time or part-time students, employed or international students, students with disabilities) and the shift towards student-centred learning and the adoption of flexible modes of learning and teaching. Support activities and facilities may be organised in various ways, depending on the institutional context. However, the internal quality assurance ensures that all resources are appropriate, adequate, and accessible, and that students are informed about the services available to them.*

*In delivering support services the role of support and administrative staff is crucial and therefore they need to be qualified and have opportunities to develop their competences.*

### Study Programme compliance

Given the economic restraints of the current situation, the School is doing its best to provide the material infrastructure for the learning and skill development of future physicians. The central facilities of the Medical School are in the Goudi building complex. In addition, there are 27 Laboratories and 58 Clinical Units located in both Goudi and University Hospitals in the Athens region (listed in the submission). Clinical units vary in size, quality of care and attention paid to teaching (from student's comments to the Panel). The clinical units are not always housed within purely University Hospitals. Often patient load and related resources are shared with other clinical units that are not structured for teaching and are run by the National Health Program (ESY). This is a well-known reality in Greece.

There seems to be a sufficient number and size of classrooms and amphitheatres to facilitate teaching.

Whether these units provide sufficient numbers and variety of clinical material for the clinical training of students varies. Involvement of the undergraduate as a member of the team also varies among hospitals.

There is substantial informatics infrastructure to assure the introduction of modern automated methods in teaching. The MyStudies application allows students to follow their progression, grades, and other pieces of information relating to their studies. E-class, is well in the process of

being implemented and allows interactive teaching. Broadband internet access appears widely available in libraries and teaching hospitals and the students have access to full text journals.

### Panel judgement

<b>Principle 6: Learning Resources and Student Support</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

The School is to be commended on the progress made in the past years and the modernization of the infrastructure and teaching and administrative methods. We recommend continuing advocacy for better funding of teaching infrastructure that should include standardized grids for assessment of student performance during the clinical training modules.

## Principle 7: Information Management

**INSTITUTIONS BEAR FULL RESPONSIBILITY FOR COLLECTING, ANALYSING AND USING INFORMATION, AIMED AT THE EFFICIENT MANAGEMENT OF UNDERGRADUATE PROGRAMMES OF STUDY AND RELATED ACTIVITIES, IN AN INTEGRATED, EFFECTIVE AND EASILY ACCESSIBLE WAY.**

*Institutions are expected to establish and operate an information system for the management and monitoring of data concerning students, teaching staff, course structure and organisation, teaching and provision of services to students as well as to the academic community.*

*Reliable data is essential for accurate information and for decision making, as well as for identifying areas of smooth operation and areas for improvement. Effective procedures for collecting and analysing information on study programmes and other activities feed data into the internal system of quality assurance.*

*The information gathered depends, to some extent, on the type and mission of the Institution. The following are of interest:*

- *key performance indicators*
- *student population profile*
- *student progression, success and drop-out rates*
- *student satisfaction with their programme(s)*
- *availability of learning resources and student support*
- *career paths of graduates*

*A number of methods may be used for collecting information. It is important that students and staff are involved in providing and analyzing information and planning follow-up activities.*

### Study Programme compliance

The School of Medicine has established procedures for the collection of data regarding: student body, teaching methods, student progression, employability and career paths of graduates. These mechanisms are described in detail in the proposal for accreditation. The systems and methods that are used include gathering of information from the administrative personnel (Γραμματεία της Σχολής) to be used for determining students with special needs so that the educational and exam schedule and process are modified accordingly.

The main body of students are selected through a highly competitive national examination. Since the Medical School of NKUA has the highest entry requirements amongst all undergraduate programmes, these students represent some of the brightest pupils nationally coming through the secondary education system. Unfortunately the extremely talented cohort is diluted and overinflated by additional entries through some opaque criteria. Student progression is very satisfactory, graduation rate is high, within the expected time frame and drop-out rates are extremely low. Student's satisfaction surveys are regularly solicited. This information is appropriately communicated towards improvement (see Principle 9, On-going Monitoring and Periodic Internal Review of Programmes, for more details on internal

mechanisms assessing the comments of the students and how they are handled). There is satisfactory representation of men and women in the School of Medicine including a small percentage of foreign exchange students.

Data related to availability and accessibility of resources are mostly online and are described in detail in Principle 8, Public Information.

The School provides adequate facilities for preclinical and clinical training, although the latter is delivered at multiple sites and, therefore, establishing and monitoring uniformity of quality standards is difficult to achieve. During the on-site visit the AP visited the Attikon Hospital, a university hospital that offers clinical training to around 40% of the students. This is a large hospital which, like many other hospitals in Greece, struggles with excellent number of admissions and inpatients. Training undergraduate medical students in this environment is challenging and both clinical faculty and students should be congratulated for their commitment and enthusiasm to maintain standards of training and education.

Following discussions with students from senior years it appears that a considerable number of graduates opt to complete their residency training in other countries abroad, mainly in the EU and USA. Without a doubt this is unfortunate for the Greek medical system, it is nevertheless a very valuable resource for the career path of the graduates. Hopefully, internationally trained graduates can bring back knowledge, expertise and networking when and if conditions allow their return to Greece.

### Panel judgement

<b>Principle 7: Information Management</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

Establishing a more formal way of communication with alumni and graduates who work abroad through a dedicated service can enhance visibility, networking and fund-raising efforts.

## Principle 8: Public Information

**INSTITUTIONS SHOULD PUBLISH INFORMATION ABOUT THEIR TEACHING AND ACADEMIC ACTIVITIES WHICH IS CLEAR, ACCURATE, OBJECTIVE, UP-TO-DATE AND READILY ACCESSIBLE.**

*Information on Institution's activities is useful for prospective and current students, graduates, other stakeholders and the public.*

*Therefore, institutions and their academic units provide information about their activities, including the programmes they offer, the intended learning outcomes, the qualifications awarded, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to their students, as well as graduate employment information.*

### Study Programme compliance

The Medical School of NKUA publishes information about their teaching and academic activities in a clear, accurate, objective, up-to-date and easily accessible manner. The main paths for communicating this information are:

- 1) The official website (<http://school.med.uoa.gr/> and <http://grammateia.med.uoa.gr/new/>).
- 2) The analytic guide of studies are also available at (<http://grammateia.med.uoa.gr/new/viewforum.php?f=127>) and include the requirements for admission and graduation for the students.
- 3) Information for most courses are downloaded in (<https://eclass.uoa.gr/>), including announcements, learning objectives, required reports, timetable, multimedia, etc. Moreover, all course outlines of the program are complete and available on line.
- 4) Moreover, The Medical School of Athens and their academic units provide information about their activities, including the programmes they offer through collaboration with many international institutions and conferences.

Finally, the academic unit Policy for Quality Assurance is available clear online

### Panel judgement

Principle 8: Public Information	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

We encourage more direct communication of the vision, opportunities, challenges and adjustments from the leadership to the enrolled students.

## Principle 9: On-going Monitoring and Periodic Internal Review of Programmes

**INSTITUTIONS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM FOR THE AUDIT AND ANNUAL INTERNAL REVIEW OF THEIR PROGRAMMES, SO AS TO ACHIEVE THE OBJECTIVES SET FOR THEM, THROUGH MONITORING AND AMENDMENTS, WITH A VIEW TO CONTINUOUS IMPROVEMENT. ANY ACTIONS TAKEN IN THE ABOVE CONTEXT SHOULD BE COMMUNICATED TO ALL PARTIES CONCERNED.**

*Regular monitoring, review and revision of study programmes aim to maintain the level of educational provision and to create a supportive and effective learning environment for students.*

*The above comprise the evaluation of:*

- *the content of the programme in the light of the latest research in the given discipline, thus ensuring that the programme is up to date;*
- *the changing needs of society*
- *the students' workload, progression and completion;*
- *the effectiveness of the procedures for the assessment of students*
- *the students' expectations, needs and satisfaction in relation to the programme;*
- *the learning environment, support services and their fitness for purpose for the programme*

*Programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date. Revised programme specifications are published.*

### Study Programme compliance

The Medical School of NKUA has established ongoing monitoring and yearly internal review mechanisms to ensure compliance and excellence of the undergraduate program (see also Principle 1 for more details). Notably, in response to the external evaluation committee review performed in 2014, the Medical School of Athens introduced internal reviewing mechanisms ensuring that the objectives of each course and of the general curriculum are evaluated and updated every two year (see also Principle 10).

The Medical School of NKUA established *de novo* processes and committees to ensure internal evaluation of the undergraduate curriculum. The committee on the curriculum of the Undergraduate program collaborates with the Committee of the Internal Evaluation, which, in turn, operates based on the guidelines of the Hellenic Quality Assurance and Accreditation Agency. These committees collaborate with the educators for determining and updating periodically the content of the compulsory and elective courses. Recommendations from the student evaluations are also considered. The committee on the curriculum of the Undergraduate curriculum sends its suggestions to the educators of the different departments requesting their feedback. Upon synthesis of the comments, this committee finalizes the proposed revisions, which are submitted to the Assembly of the Medical School for final approval.

The Medical School of Athens has performed great progress in establishing internal reviewing mechanisms for ensuring quality via feedback-based assessment and subsequent corrective modifications.

The Panel greatly appreciated the effort and the progress, but also noted the lack of an internal mechanism with advisory and corrective power to ensure high level training quality at all sites involved in the education and training of the students. In addition, there are no mechanisms to quantitatively monitor effectiveness of added measures or implemented changes and ensure standards uniformity. Interviews with students revealed that certain training sites are very efficient at their training missions, whereas several others are not. This is an important concern that can and should be urgently addressed.

We were impressed by the intellect, enthusiasm and drive of the students we interviewed. The Medical School of Athens has the best students in the country who expect more consistent training, and thus the Medical School of NKUA has an immense opportunity to further enhance their training via these corrective actions.

### Panel judgement

<b>Principle 9: On-going Monitoring and Periodic Internal Review of Programmes</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

### Panel Recommendations

Urgent implementation of measures to ensure uniformity of high-level training in efficient teams, where the students feel members of a unit, at all training sites is the responsibility of the School of Medicine. The internal reviewing and corrective mechanisms required for this process need to be established urgently.

## Principle 10: Regular External Evaluation of Undergraduate Programmes

**PROGRAMMES SHOULD REGULARLY UNDERGO EVALUATION BY COMMITTEES OF EXTERNAL EXPERTS SET BY HQA, AIMING AT ACCREDITATION. THE TERM OF VALIDITY OF THE ACCREDITATION IS DETERMINED BY HQA.**

*HQA is responsible for administrating the programme accreditation process which is realised as an external evaluation procedure, and implemented by a committee of independent experts. HQA grants accreditation of programmes, with a specific term of validity, following to which revision is required. The accreditation of the quality of the programmes acts as a means of verification of the compliance of the programme with the template's requirements, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees.*

*Both academic units and institutions participate in the regular external quality assurance process, while respecting the requirements of the legislative framework in which they operate.*

*The quality assurance, in this case the accreditation, is an on-going process that does not end with the external feedback, or report or its follow-up process within the Institution. Therefore, Institutions and their academic units ensure that the progress made since the last external quality assurance activity is taken into consideration when preparing for the next one.*

### Study Programme compliance

The Medical School of Athens has already undergone an external review in 2014. This review was administered by the Hellenic Quality Assurance and Accreditation Agency. In fact, two of the members of the current AP were also members of the 2014 evaluation committee. The Accreditation Panel is pleased to report that the Medical School of NKUA has been very responsive to the previous external review. It is remarkable that, although the curriculum had not changed for 50 years, the Medical School of NKUA modified the curriculum of the undergraduate studies in 2017. During their site visit, the AP were impressed by the point-by-point response of the School's Chairman Prof Sfikakis, to the previous evaluation, demonstrating that many of the revisions were based on the external evaluation report. The revised curriculum introduced additional clinical courses and clinical experience in earlier years and avoids redundancies. Moreover, the Medical School of NKUA recently established that objectives of each course and of the general curriculum will be evaluated and updated every two years. These initiatives, among many more adjustments described in the proposal for accreditation, constitute very significant steps towards ensuring compliance and excellence in quality standards. Given the longstanding traditions and culture of the School, the AP recognized that this was a hard task that demonstrates the commitment of the School's leadership to excellence in education and training.

To further validate the importance of these changes, the AP met with students who expressed their excitement about the changes in the curriculum, especially on the emphasis on more clinical courses introduced at earlier years and focus on the development of practical skills.

The majority of academic faculty and all members of staff are fully aware of the importance of the external review and its contribution to improvement. Moreover, the stakeholders of the program, such as representatives from the National Drug Organization and the Alexander Fleming: Biomedical Sciences Research Center, were productively engaged in the external review.

In summary, the Accreditation Panel was impressed with the responsiveness to the previous review and with the level of organization and preparedness for the current review.

### Panel judgement

<b>Principle 10: Regular External Evaluation of Undergraduate Programmes</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

The School is clearly on the right path in terms of changing the ethos and approach regarding the role of curriculum revision. They should continue their efforts to ensure that this mentality is fully embedded across all faculty and staff.

## **PART C: CONCLUSIONS**

### **I. Features of Good Practice**

Overall, the Accreditation Panel's view is that the School of Medicine of NKUA offers a vibrant environment that accomplishes its mission regarding educational, clinical and research objectives. Both faculty and especially students are of the highest quality and take pride of their educational and research achievements. The revised curriculum is well structured and fulfills all the strategic objectives of the School of Medicine.

Additional strengths include:

The School of Medicine at NKUA has considerable depth and a wide spectrum of clinical expertise across the different areas of clinical medicine and therefore is able to deliver a comprehensive curriculum.

The School of Medicine is a highly reputable academic institution internationally and as a result, students enjoy high level of employability in Greece and abroad.

The curriculum has been modernized and during this process, with a more student-focus approach and the potential of UG students to contribute in this process has been recognized.

There are some very strong research programmes, where student engagement results in excellent opportunities for exposure to clinical research and generation of high impact outputs.

### **II. Areas of Weakness**

The size of the UG student cohort the School of Medicine is asked to teach and train is a major weakness of the program, albeit outside the School of Medicine's control. The Panel unanimously agreed that this is a major area of weakness that prevents optimal education of medical students. It drains resources and dilutes faculty's heroic efforts to manage and navigate this mass.

There is a lack of uniform quality training criteria at different training sites. This is a major issue that impedes efforts to fully implement a successful quality policy.

Modernisation of the curriculum and teaching support remains a work in progress. Despite examples of excellent educational practice, old school mentality is still present. The School of Medicine, through its governing bodies, should aim to eliminate such practices.

Research involvement of students is not fully and formally embedded in the undergraduate curriculum in an effective manner.

### **III. Recommendations for Follow-up Actions**

It is impossible to achieve high levels of education and research training with so many students. Although we appreciate that the overwhelming number of students is outside the University' control, we strongly recommend that the University engages in advocacy with appropriate authorities to re-evaluate and correct these problems.

The School of Medicine, working together with students, should identify evidence of best practice (e.g. Neurology at Attikon Hospital) and use it as exemplar in an effort to enhance teaching standards and uniformity.

The School of Medicine should introduce measures of formal medical education training of the faculty and residents (train the trainers), and peer-to peer observations to guarantee of appropriate, effective educational skills across the Faculty and the different sites of training.

Performance evaluation at the clinical training rotations ought to be more formalized and include at least on OSCE (Objective structured clinical examination) and based on a standardized evaluation grid, preferably supplemented with narrative feedback by the supervisor. It should eventually be incorporated in progression and graduation criteria.

The School should develop formal opportunities of research-focused activities for the students. This is essential for the training of the students and consistent with the vision of the School, which is extroversion through enhanced research productivity and visibility.

### **IV. Summary & Overall Assessment**

The Principles for which full compliance has been achieved are:

Principle 1: Academic Unit Policy for Quality Assurance

Principle 2: Design and Approval of Programmes

Principle 4: Student Admission, Progression, Recognition and Certification

Principle 5: Teaching Staff

Principle 6: Learning Resources and Student Support

Principle 7: Information Management

Principle 8: Public Information

Principle 10: Regular External Evaluation of Undergraduate Programmes

The Principles for which substantial compliance has been achieved are:

Principle 3: Student-centered Learning, Teaching and Assessment

Principle 9: Ongoing Monitoring and Periodic Internal Review of Programmes

The Principles for which partial compliance has been achieved are:

None

The Principles for which failure of compliance was identified are:

None

<b>Overall Judgement</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

**The members of the Accreditation Panel for the Undergraduate Programme  
Medicine**

**National and Kapodistrian University of Athens**

Name and Surname

Signature

1. **Prof. Nikolaos Venizelos (Chair)** Örebro University, Örebro, Sweden
2. **Prof. Dimitris Grammatopoulos**, University of Warwick, Warwick, United Kingdom
3. **Prof Constantin Polychronakos**, Mc Gill University, Montreal, Canada
4. **Prof Thanos Tzounopoulos**, University of Pittsburgh, Pittsburgh, United States of America
5. **Dr Apostolos Mandrekas**, Representative of the Panhellenic Medical Association, Athens, Greece