Doc. 300.3.2

Higher Education Institution's Response

(Departmental)

Date: 30.3.2020

- **Higher Education Institution:**
  European University Cyprus
- **Town: Nicosia**
- **School/Faculty: School of Medicine**
- **Department: Medicine**
- **Programme(s) of study under evaluation**
  Name (Duration, ECTS, Cycle)

Programme 1
In Greek:
«Ιατρική, 360 ECTS / 6 έτη (Πτυχίο)»
In English:
"Medicine, 360 ECTS / 6 years (Doctor of Medicine, MD)"

Programme 2
In Greek:
Programme Name
In English:
Programme Name

Programme 3
In Greek:
Programme Name
In English:
Programme Name

- **Department's Status: Currently Operating**

The present document has been prepared within the framework of the authority and competencies of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, according to the provisions of the "Quality Assurance and Accreditation of Higher Education and the Establishment and Operation of an Agency on Related Matters Laws of 2015 to 2019" [N. 136 (I)/2015 to N. 35(I)/2019].

A. Guidelines on content and structure of the report

- *The Higher Education Institution (HEI) based on the External Evaluation Committee's (EEC's) evaluation report (Doc.300.3.1) must justify whether actions have been taken in improving the quality of the department in each assessment area.*

- *In particular, under each assessment area, the HEI must respond on, without changing the format of the report:*

    - *the findings, strengths, areas of improvement and recommendations of the EEC*
    - *the deficiencies noted under the quality indicators (criteria)*
    - *the conclusions and final remarks noted by the EEC*

- *The HEI's response must follow below the EEC's comments, which must be copied from the external evaluation report (Doc. 300.3.1).*

- *In case of annexes, those should be attached and sent on a separate document.*

1. Department's academic profile and orientation

Sub-areas

1.1 Mission and strategic planning
1.2 Connecting with society
1.3 Development processes

1.1 Mission and strategic planning

The Department of Medicine has defined a clear mission in general terms. This seems to be accepted and carried by all persons involved, i.e., students, staff, and stakeholders. We feel that the clear and very strong entrepreneurial spirit of fundamental common human values, internationality mainly in the student body, and the great strength of transcultural aspects might be used to define a more distinctive, specific and unique mission and vision of the Department. Actually, we got the impression that this is already applied in reality in many everyday aspects of work.

The teaching programs look admiringly coherent, as judged from the documents provided, but we were of course not able to fully assess whether everything carries through in daily life. Due to time constraints, we did not have an opportunity to make unannounced visits of courses, etc. We were offered this, but there was not sufficient time left.

We would like to thank the EEC for recognizing that EUCMS has addressed its aims through its Mission, Vision and Core Values and have made this available on our website and documentation (e.g. Handbook, Clinical Training Manual, Quality Assurance Guide, etc.). We have made a sincere effort to include all aspects, and we appreciate the EEC's indication regarding the potential strengths of multi- and transcultural inclusion.

We are also grateful for the EEC's observation regarding the quality of our teaching program. EUCMS (through the focused efforts of various committees, including the Curriculum Committee, Structure and Function Committee, Clinical Training Committee, among others) dedicated a tremendous amount of time to define learning outcomes and link them to competences appropriate for the clinical practice of the Medical graduate. An effort was made to meaningfully harmonize and align several frameworks within our curriculum. A process,

which was subjected to three external reviews in order to focus and fine-tune our efforts and which ultimately, resulted in two major revisions.

1.2 Connecting with society

The Department of Medicine built a very interesting core curriculum. The needs of the local community (or communities) were not entirely clear to us, and would need to be more systematically assessed. Very strong orientation towards clinical skills. The Canadian model of Medical Schools (CANMEDS) would allow for additional aspects that are implemented almost nowhere. The setting of the Department of Medicine may allow to assume international leadership in the full implementation of the CANMEDS vision. The PhD program in Public Health may allow to address such issues, e.g. health advocacy, health literacy, unmet needs of populations and subpopulations,

Needs of Community:

We are grateful that the EEC found value in our core curriculum. We agree and strongly believe that addressing societal needs is of pivotal importance for any medical program, and is something we specifically outline in our mission statement. Due to time constraints during the day of the departmental evaluation noted above, we were unable to demonstrate the efforts we have done for community outreach programmes. In addition, specific electives have been introduced that address the current and anticipated needs of society and the health care system (e.g. antibiotics and prescribing policies, healthcare management, geriatrics, infection prevention). Also, the curriculum was designed to ensure that students are exposed to various clinical sites and structures, with focus on public health / primary care, which has been identified as a current need of the health care system. Smaller modifications were made to the course content in annual course outlines and course documentation provided for students. These adjustments in the curriculum were achieved through the continuous and rigorous review by the Program Committee (November 13, 2018; January 15, 2019; June 17, 2019), as well as in Department Council Meetings (dates: 10/5/18, 5/12/17, 17/1/18, 1/12/2014, 27/10/2014, 13/10/2014, 23/11/2015, 7/12/2015, 30/11/2015, 28/9/2015, 4/5/2015, 23/3/2015 9/3/2015, 26/1/2015, 18/6/2019, 17/4/19, 7/2/2019, 13/12/2018, 27/11/2018, 3/10/2018, 29/5/2018, 11/5/18, 4/10/2017, 6/2/2017).

In addition to dedicated courses, themes such as behavioural and social sciences, medical ethics, public health, medical humanities span all years and are threaded throughout the basic modules and clinical clerkships. Courses that address the issue behavioral and social sciences include Biostatistics, Clinical Practicum, Epidemiology, Psychology and Ethics, Society, Public Health & Legal Medicine. Medical ethics and medical jurisprudence were introduced as part of the preclinical training, it was also expanded in clinical training with a specific course "Ethics, Society, Public Health & Legal Medicine".

Students learn how to apply knowledge and skills in human behavior for medicine and health care. The team-based learning format and open discussions and debates in these courses, empowers the curriculum to adjust and modify contributions of the behavioral and social sciences, as well as medical ethics and jurisprudence to address new developments, anticipated needs of society and health care systems, as well as changing demographic/cultural contexts, without requiring curricular change.

In addition to focused efforts in our curriculum to systematically address the community, the Faculty of the Department of Medicine are members of the Scientific Council of the recently established Cyprus **State Health Services Organization**. This provides opportunity for active involvement of EUC Faculty in the current developments of the Cyprus Healthcare System and not only strengthens, but also expands the cooperation between EUC academia, students, and public hospitals. Several Faculty members are active members of **local scientific societies**, such as the Cyprus Society of Cardiology and the Cyprus Society of Chemotherapy and Infections.

Community outreach programs with local organizations include voluntary activities (such as the recent collaboration with the Cyprus Special Olympics Committee), public awareness campaigns (such as the cardiovascular health campaign in collaboration with the Cyprus Cardiology Society), educational programs (such as, the Educational program on healthcare-associated infections for nurses in collaboration with the Nursing Services of the Ministry of Health and the Educational program of personal doctors for the General Health System of Cyprus in collaboration with major universities of Cyprus and the Ministry of Health). As an international academic entity, European University Cyprus School of Medicine encourages and promotes agreements with international hospitals and research institutions of the highest

caliber for EUC student **summer externships**. The externship experience promotes the idea of employability and allows students to gain experience in environments and countries that they wish or expect to work in the future. The externship program is also an opportunity to create and strengthen relations between EUC Faculty and international clinical/research centers.

Community outreach programs with international organizations include joint clinical and research activities (such as the recent establishment of collaboration with the ELPEN experimental center and with the Hadassah Medical Center) (MoU signed – date: 30.3.18), public awareness campaigns, such as the antibiotic awareness week in collaboration with the European Society of Clinical Microbiology and Infectious Diseases, (Surveillance & Metacompetence dates: 10-11.6.19), and educational activities, such as the establishment of EUC as a training center for the European Committee of Infection Control (Workshop on Laboratory Diagnosis of Diphtheria, dates: 9-11.11.2018), and the recognition of EUC as an official site center for the Harvard T.H. Chan School of Public Health, (Principles and Practice of Clinical Research).

Several Faculty of the School are active members (or Fellows) of **international scientific societies**, such as the European Committee of Infection Control, the European Society of Cardiology, European Association for Endoscopic Surgery, American Association of Anatomists, Association of Clinical Anatomists, Federation of Association of Anatomists, Society for Neuroscience, Institute of Stress Biology & Medicine, European Resuscitation Council, American College of Clinical Pharmacology, Eurotox, Higher Education Academy and the Academy of Medical Educators among others.

Finally, the Dean and the Curriculum/Program Coordinator are actively involved with the International Network for Healthcare Work Education (INHWE). INHWE taps into the expansive knowledge resources of the global health workforce education community by creating an International, inter-professional and multi-stake-holder non-for-profit scientific body. The linkage with the Medical School has been reinforced as the EUCMS was the co-organizer and host of the congress entitled “Future Education for Healthcare” (May 9th-10th 2019) (http://www.inhwe.org/nicosia-2019).

The School of Medicine, EUC, in collaboration with the **World Health Organization (WHO)** Global Collaborating Centre for Diphtheria, Public Health England, United Kingdom and the **European Centre for Disease Control and Prevention (ECDC)**, co-organized an International Workshop on the Laboratory Diagnosis of Diphtheria; an effort which received the support of the Ministry of Health of Cyprus. Lectures and hands-on workshop training took place in the state-of-the art microbiology laboratories of the EUC, School of Medicine in Nicosia, Cyprus. The collaborative effort by European University Cyprus, the World Health Organization and the European Centre for Disease Control and Prevention served to increase the awareness about diphtheria infections and equipped participants with appropriate laboratory skills to confirm the disease using specialized laboratory diagnostic methods. These efforts have begun to produce both new research efforts, and bring in funding (as requested and discussed below).

Additional efforts to embrace community include: Kratis training & consulting, in collaboration with the Cyprus Medical Association and the Cyprus Nursing Association, organized the first ***Conference on Patient safety*** in Cyprus. The conference, with international participation, was supported scientifically by major stakeholders in patient safety in Cyprus, including Faculty from the EUC School of Medicine. (January 2019)

The School of Medicine, as an official host, announced the ***2nd Cycle the Harvard T.H. Chan School of Public Health*** for the course entitled ***"Principles and Practice of Clinical Research" (PPCR).*** The PPCR certificate course is taught online by the Faculty of the Harvard T.H. Chan School of Public Health Faculty in Boston, and is open to interested senior medical students, graduate students, Faculty, staff and researchers interested in clinical research or academic research, in general. The School of Medicine, EUC was invited to co-organize in the ***educational program of personal doctors*** for the Cyprus General System of Health, in collaboration with the ***Ministry of Health***. Faculty participated, giving lectures on topics of their expertise to doctors who were enrolled in the program in order to become accredited as personal doctors in the new Health System of Cyprus. (March 2019) Following and invitation by the ***Ministry of Health***, EUC Faculty became members of the newly established ***National Committee for development and implementation of Protocols and Clinical Guidelines***, initiated and chaired by the Ministry of Health, Cyprus. (April 2019)

During the course of the recent crisis, the Department has stepped forward with altruism and community service in an effort to help combat the Covid-19 amidst the worst public health crisis

in the last generation. The faculty of the School of Medicine has three renowned **experts in Infectious Disease Prevention and Control (IPC)**, Professor Theoklis Zaoutis, Dr. Constantinos Tsioutis and Dr. Zoi Pana. All three faculty members have been actively making **public announcements** on television, radio and other media forms in order to advise the community on the outbreak and what protective measures they should take. In addition, all three EUC faculty members serve as **advisors to the Ministry of Health** in Cyprus (Tsioutis, Pana), as well as in Greece (Zaoutis, Pana). Finally, EUC has spearheaded along with the Ministry with an ***Education Program for Doctors and Healthcare personnel*** with regards to preparedness and activities (e.g. PPE, etc), using guidelines shared with EUC by Johns Hopkins.

The School actively supports the Microbiology Laboratory, under the auspices of Dr. Alexandrou, EUC Clinical Professor, of Larnaca General Hospital, to enable the urgent and accurate diagnosis of the SARS-Cov2. The EUC affiliated Famagusta General Hospital, which is partnered with Larnaca General, has been appointed as the reference hospital to serve for the hospitalization of coronavirus patients. Both **EUC affiliated public hospitals share the load of patients and responsibilities in order to safeguard public health in Cyprus.**

Due to the increased risk of intra-hospital and intra-physician transmission of COVID-19, there is an urgent need to educate and train all healthcare providers, particularly high-risk physicians, on both basic and advanced Infection Control and Prevention (IPC) methods. Because of EUC School of Medicine's recognized expertise in IPC, ***the Cypriot Ministry of Health has called upon EUC Medical Faculty IPC Experts to establish an intensive simulation-based training program for Cypriot Healthcare Providers on Infection Control and Outbreak Preparedness for COVID-19.*** EUC is called upon to orchestrate this training, not only because of its expertise in IPC, but also for ***EUC's recognized expertise in Simulation Based Training***. In order to facilitate in the actions outlined below, senior EUC Medical Students will also be trained in this program. Following an agreement with **PanCypriot Medical Association and the Ministry of Health**, students have been called upon to participate in various activities to support the Ministry of Health to handle the current crisis in Cyprus. Students are from senior years of clinical training from the School of Medicine, and from the Infectious Disease Master of Science program.

The **student activities** include:

1- CALL CENTER MANPOWER- Students will help to man call centers for citizens to reach out for help and guidelines.

2- LABORATORY ASSISTANTS - Due to the large number of samples to be tested, students assist in the laboratories currently running tests.

3- PHYSICIAN ASSISTANTS - Cyprus is facing a shortage of Physicians to manage the outbreak. Senior medical students serve as clinician assistants.

4- REGISTRY - The Medical Association of Cyprus will be making a registry of cases and compiling data. Students help collect and manage data.

For each of the above activities, students are trained, and supervised by experts and faculty. **Student safety is of utmost importance**, and detailed **guidelines/written protocols** are provided and monitored by our IPC specialist faculty. EUC, School of Medicine, in response to the current public health crisis, has stepped forward with **focused community healthcare support** provided by its **expert faculty, its affiliated hospitals and its medical and graduate students**. EUC aims to stand by and assist the overwhelmed health care work force during this global health crisis, rather than sit on the sidelines, for the duration of the pandemic. Both the Faculty and Students of the School of Medicine took an **oath to provide care**. They are serving their oath.

Strong Orientation Towards Clinical Skills:

We are grateful that the Committee recognizes our efforts towards ensuring competency of our graduates. The six-year curriculum at European University Cyprus is an *integrated-spiral-design curriculum* that is *competency-based*. Integration reflects courses that not only bring together the various basic disciplines, but also clinical, factual, experiential sources of information. The overall aim is to foster the understanding and performance of professional activities in medicine in our students at an early stage of their education. As such, integration of the curriculum can be viewed as a continuum, with discipline-based teaching at one end and full integration of disciplines at the other Enhancing the cognitive activities of the students is a critical element required to achieve the high level of horizontal integration envisioned in this revised curriculum. To this end, we have focused on using active teaching modalities that enhance cognitive activities in our students. By this, the aim is to create a conceptual coherence between the various disciplines and allow our students to build an understanding of basic sciences to relevant clinical problems. The curriculum is fully integrated both

horizontally (systems-based) and vertically (basic-clinical science). The students move through the three spirals of the curriculum, where learners revisit topics several times, but where the complexity of the material increases with each revisit. As such, new concepts are built on previous learning. As students move from simple to complex, by mastering topics by building new knowledge to prior knowledge, the spiral curriculum provides reinforcement, a logical sequence of material where the scope and sequence of topics brings order to the growing wealth of knowledge, and most importantly, they are able to achieve higher level learning objectives. The EUC Medical Curriculum is designed to also facilitate the development of primary *competencies* in our students, as defined by the Accreditation Council for Graduate Medical Education (ACGME). The clinical years of the EUC curriculum aim to transform students who have learned basic sciences into students who can deal with patients and their problems in a hospital or outpatient milieu. To do this, numerous new clinical skills, professional behaviors and considerable medical knowledge must be added to that which the student has previously acquired, which is based on the learning objectives of their clinical courses and the clinical competencies roadmap of the School of Medicine. In addition to indicating required basic knowledge, skills and attitude achievements, the educational outcomes also specify student engagement in medical research and stress the importance of global health and social accountability. Each semester, the coordinator of each class uploads on Moodle the Course Outline for student access.

Assuming International Leadership:

We are truly honored by the suggestion that we could assume international leadership through the implementation of the CANMEDS vision. CanMEDS is a framework that identifies and describes the abilities physicians require to effectively meet the health care needs of the people they serve, which is closely aligned to our competency-based program. These abilities are grouped thematically under seven roles. As Medical Experts, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. Medical Expert is the central physician Role in the CanMEDS Framework and defines the physician's clinical scope of practice. This is fully addressed in the curriculum. As Communicators, physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care. Communication skills are taught throughout the existing curriculum. As Collaborators, physicians work effectively with other health care professionals to provide safe,

high-quality, patient-centered care. We place extreme emphasis in creating members of teams who can collaborate effectively with all health care providers to achieve patient-centered care. As Leaders, physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers. Again, in the SMART strategic plan the vision of the School is to create leaders of Medicine. We acknowledge Leadership as a key element of any healthcare provider and we have embraced that the role of the leader is mainly to support others. This is part of the culture of EUCMS which has adopted the European Resuscitation Council taxonomy of the leader, from the Advanced Life Support manual, written by the Program coordinator. As Health Advocates, physicians contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change. This is an element EUCMS agrees that needs to be further enhanced through the interdepartmental PhD program in Public Health. As Scholars, physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship. EUCMS has been imbued by the values of the Academy of Medical Educators, where continuous improvement is imbued into the Faculty and students alike.

1.3 Development processes

This has been extremely difficult to assess. We did not follow any teaching units, did not systematically interview students about the quality of teaching. However, our impression was positive, although it is challenging to ensure that the best staff are available in this quickly growing program.

2013 – 2019: Scope international, in comparison for example to the University of Cyprus. 34 Students from Cyprus, 57 from Greece, 36 from other European countries, 2 from Asia, 9 from the Middle East, 2 from Africa. We do not know, what is expected in the future, but the programs are extending, getting better known and more students apply from everywhere so that the acceptance rate has substantially dropped to about one third, and entry into the program has been made much more stringent.

Teaching Units:

We are grateful that, despite the limited time, the EEC had a positive impression regarding the Department's teaching units. EUCMS endeavors to select the best available Faculty through transparent procedures. The EUC Charter clearly defines the policies for Faculty selection and appointment. Recognizing the University's commitment to excellence in teaching and research and aiming at ensuring the recruitment, selection, and appointment of Faculty members with high potential and ability, as well as at providing support for the continued development of their skills as good teachers and researchers, the Senate of the University and subsequently, the Department of Medicine, adopts a well-defined Faculty Selection procedure that is outlined in detail in the EUC Charter.

During this period of documented needs for medical services throughout the European Union, the School of Medicine has been able to attract high-quality, innovative Faculty members/clinicians who desire to practice, teach and conduct research in a high-caliber academic medical education environment in Cyprus. The strategy for building the Faculty ranks includes the early recruitment of senior core Faculty members who also serve as senior research leader Faculty. These are professor or associate professor-level Faculty who are expected to ensure the smooth running of the medical curriculum and rapidly advance the medical School's research vision (e.g. Professor Theoklis Zaoutis, Professor Theodoros Xanthos, Professor Anastasis Stephanou, Associate Professor Panayiotis Economidis). Throughout each educational cycle, full-time junior Faculty and scientific collaborators are recruited to support basic and clinical teaching aspects of the six-year program.

Recruitment of full-time academic Faculty has been staged. For the full-time Faculty, the aim has been to build a team that will potentially work together for many years. In developing and composing the team, an effort will be made to recruit individuals at different stages in their careers, to avoid the risk of having a core team that is primarily junior or senior in experience. Currently, there is a healthy mix of experienced and younger Faculty members that ensures a balance of time-tested wisdom of the senior Faculty and new ideas from the junior Faculty.

Faculty members are selected based on experience and qualifications from academic, educational, research and clinical work, as described in the EUC Charter. The profile of the academic staff is of the highest quality and each member possesses a different area of

expertise, forming teaching teams, which teach parts of the preclinical and the clinical curriculum.

Scope - Student Population:

We appreciate that the EEC recognizes the Departments international scope. The profile of the students is determined by a very specific set of rules of admission criteria. A part of the evaluation of each student prior to admission to medical School is an interview, which examines thoroughly the intrinsic motivation of each student and alongside with the student's high School performance leads to admission or not in the EUC School of Medicine. The Department records a 60.1% mean rejection rate across the first 6 years of its operation. The Department attracts a large cultural diversity of students. At present, the study body represents over 40 different countries from around the world including the USA, Canada, Italy, Israel, South Africa, Lebanon, Iran, Germany, Denmark, Switzerland, Nepal, India, Syria, United Arab Emirates, Greece, just to list a few. While the study of medicine may have clear scientific guidelines, among our main concerns is to instill competencies in professionalism and ethical behavior, and to ensure that our graduates will work well and competently with all patients, regardless of their race or creed. EUCMS feels the necessity to stress the importance of compassionately embracing all nations, all backgrounds, and all beliefs in our effort to best serve the health needs and wellbeing of our fellow human beings. The Department and students admitted embody a vision of humanity and deeply rooted notion of global integration, acceptance, and service to mankind.

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

The European University was founded in 2007 and the School of Medicine began operation in 2013. A first cycle of students has graduated in 2019. The School has left an excellent impression with a very modern outlook concerning teaching and teaching improvement, student involvement and a very broad array of methods. Structures, organization and application seem to be working. Processes are set up, and the Department is enlarging. The Department strives to achieve perfection and best national and international academic standards. Since the Department is still small, teaching is very personalized. Target students

are not only Cypriot, but also international students. Acceptance of students is based on academic performance, positive personality traits, and motivation necessary for medical doctors. Admission of students has become more stringent over time, as demand has substantially grown. The program struggles somewhat with quick expansion and keeping up adequate staffing. Employability of students and improving interactions with industry were also mentioned. Employability seems very good. However, interactions with industry would better develop with bigger programs and more focused research. The latter is a prerequisite for visibility to local and international companies that are competitively active in advancing medicine, such as pharmaceutical, medtech and digital technology companies.

Competitive international research is a clearly stated focus area by the leadership of the University, Medical School and the Department, but is still mostly in its infancy. External funding is on the increase, and the Department has managed to generate an academic and research oriented spirit. Clear focuses of research, rooted in the University, are not very clearly recognizable. This needs to be addressed. Specific internationally competitive research areas where the Department can innovate and make an impact to the general scientific community should be identified and defined.

Connections to society begin to be better prioritized now, and the PhD program in Public Health may offer additional opportunities.

Academic Standards:

We would like to thank the EEC for these favorable observations and comments. EUCMS strives to incorporate interventions to improve the learning environment for all, including planned new activities (e.g., near peer teachers) or organizational change (e.g., training sites) that are anticipated to have an impact on the learning environment. In addition to space modifications to facilitate team-based learning, the facilities and equipment are updated regularly to improve the learning environment. The simulation and skills training complex was founded in 2013, the first academic year of operation of the EUCMS. Since then, the complex and high-fidelity simulators have been upgraded continuously. The original simulator (SimMan) was upgraded (new patient monitor, 2015); the Simulation Pad (wireless simulator) was upgraded with pre-made scenarios (new patient monitor, 2016); the high-fidelity simulator (Victoria) was acquired (2017) and additional parts were added to improve fidelity and enrich

scenario options. Other additions to the learning environment include the addition of SECTRA and V-Medics Ultrasound Trainer. The School updates and applies online platforms, such as Blackboard and Moodle, as well as monitors and upgrades *Computer-Assisted Learning (CAL), and Virtual reality (VR)* learning environments. Computer labs, equipped with appropriate software, are available for various laboratory sessions, student assignments and independent learning. Recently the School is actively participating in the *Digitally Enhanced Learning (DEL)* project. All of the above underscore the Schools aim to update education resources according to the changing needs. As noted by the EEC we have predetermined structures and very specified internal quality control. We do strive for continuous improvement as we see ourselves as life-long learners. In addition, small-group teaching and training represents the core of the weekly schedule of our educational program

Student Admissions:

The candidates' selection process is determined by a set of clear admission criteria, which have been developed School's ***Admission Committee*** and approved by the School Council. (date: 7.2.19) The admission criteria look into the academic qualifications of candidates and proficiency of English language. Academic reference letters and personal statement are used to help provide an insight on the commitment and motivation to study medicine. Finally, a predominant part of the evaluation of each candidate prior to admission to the School is the interview, which examines the intrinsic motivation, knowledge, and values of each candidate to determine their suitability for admission to the EUC School of Medicine and their ability to matriculate.

Admission Process and Criteria: Candidates submit their application together with requested documents online through the University's website or in person at the Office of Admissions. Admission Officers review all applicants and forward qualified candidates to the designated **Admissions Committee** of the School of Medicine, to determine eligibility for admission and to initiate the selection process.

Academic Records: Details regarding academic requirements are given: 1) For applicants from Cyprus or Greece, 2) For international applicants, 3) For applicants who hold a Bachelor Degree, 4) For applicants who have completed a one year of "pre-medical" training course, and 5) For applicants who are graduates from other programs.

Proficiency in English Language: Candidates will need to have passed the GCSE or IGCSE with a grade of 'C' or above or IELTS with a grade of 6.5 or TOEFL with a score of 213 (550 paper based, 79-80 internet based) or other equivalent English examination.

Academic Reference/Letter of Recommendation*:* Applicants must provide an academic reference/letter of recommendation from a teacher or lecturer. The recommendation letter must be certified by the School or university with which the referee is affiliated.

Personal Statement (Motivation Letter): All candidates must submit a personal motivational statement written in English. The personal statement helps the Admission Committee to assess the non-academic attributes that are important in a career in medicine and is a critical part of the selection process. It is essential that applicants take this opportunity to demonstrate their motivation and enthusiasm to study.

Interview: All eligible candidates will be invited for structured interview in Cyprus. When necessary the University will conduct interviews online. The interview process is rigorous and thorough. Applicants should be prepared to discuss their personal motivation to study medicine, their hobbies and personal interests, as well as providing evidence of their academic credentials. Applicants are notified about the exact date they will need to appear for their interview. The face-to-face interview is extremely valuable process of identifying the highest quality possible candidates.

The *Admissions Committee* uses an interview score sheet for each interview. Two members of the Committee are assigned to each candidate to do the interview and review the candidate's material. Based on the candidate's performance at the interview, the assigned Committee members make their recommendation. The Committee meets at predetermined intervals, to review and discuss the candidates that were interviewed during that period. The Committee votes to either proceed to offer a place on the program or reject the candidate. The Committee's decision is documented and signed. The committee reserves the right to place candidates on a waiting list, and on occasion to invite the candidate for a re-interview session. Following candidate review meetings, the Committee notifies the Admissions office, who in turn, will also notify candidates in writing about the final decision of their application.

The EUC School of Medicine prepares students to excel in the rapidly changing landscape of modern medicine through a curriculum grounded in foundational knowledge, skills acquisition, professionalism, and social accountability. The EUC medical graduate is someone for whom teamwork, emotional intelligence, growth mindset and academic excellence, both professional and personal, have become a way of life. An effective, competitive student selection is central to achieving these aims.

Expansion of Program:

The program expands in accordance with the increase of instructors and Faculty members. Please note that the inclusion of Clinical Faculty was decided by the Department Council and School Council and subsequently ratified by the Senate. The School does intend to increase its Faculty, support staff and resources, and by doing so, scale up its teaching efficiency (below we indicate new positions that we have opened.) In addition, EUCMS is planning to increase its resources to further accommodate clinical training of students. In this regards, we progressed to establish agreements with two locations ("Care Medical Institute" and "Polyclinic") and have developed strategic collaborations for general practice/primary care. The addition of Polyclinic to our affiliated teaching clinics, in addition to supporting the general practice/primary care practice indicated by the EEC, also adds training sites for Ob/Gyn, Internal Medicine, Surgery, Gastroenterology and Pediatrics. Additionally, two of our primary (and exclusive) teaching hospitals (German Oncology Center and Larnaca General Hospital) have increased their bed capacity, which further scales up our clinical teaching abilities. Our other exclusive training site, American Medical Center, has also increased the disciplines and services provided. This will be augmented by tightened collaborations with other teaching hospitals, such as Apollonio Hospital, which covers primary clinical disciplines, and sub-disciplines, as well as with dedicated support spaces (e.g. seminar rooms, study rooms) in these affiliated teaching hospitals. Finally, we have broadened student opportunities for elective clinical training through our international linkages (e.g. Hadassah, IASO Children's, Metropolitan General, Hygeia Group, etc.). As a new School, recruitment of full-time academic Faculty was stage over the first 6 years of existence. For the full-time Faculty, the aim was to build a team that will potentially work together for many years. In developing and composing the team, an effort was made to recruit

individuals at different stages in their careers, to avoid the risk of having a core team that is primarily junior in experience or pre-retirees. While, currently there is a healthy mix of experienced and younger Faculty members that ensures a balance of time-tested wisdom of the senior Faculty and the new ideas from the junior Faculty, recruitment had focused on primary pillars [structural basic sciences (anatomy, histology, etc.), functional basic sciences (physiology, pathophysiology, etc.), and clinical pillars (neuroscience, surgery, child & maternal health, internal medicine and primary care)]. The School is now a pivotal time point to not only to scale up our staffing, but also to focus on new areas of development. At present, EUCMS has opened eight new Faculty posts, seeking to recruit qualified academics at any academic rank in the following disciplines: Neurology, Primary Care/General Practitioner (to demonstrate our focus on the GP training), Biology, General Surgery, Microbiology/Immunology, Hematology, Radiology, Obstetrics and Gynecology. Following the EEC evaluation, recruitment of experts in medical education and research have also been opened, for a total of 10 new faculty positions. In summary, although our current student body is in accordance with staffing and resources, as noted by the EEC, augmentation of staffing and resources is aimed at augmenting our educational program, enhancing staff/Faculty health work-life balance and improving our research output.

(Please see link https://euc.ac.cy/en/school-of-medicine-department-of-medicine/

Employability & Interaction with Industry

We would like to thank the EEC for indicating that our employability is good. We agree that employability of our students so far is at a high level. We have initiated interactions with the industry already (medical devices & pharmaceutical industry). An example would be the Memorandum of Understanding with ELPEN Pharmaceutical Research center, where all translational experiments are carried out. The Program coordinator has been the patent holder of one new liposomal delivery system for adrenaline for cardiac arrest which is now owned by a pharmaceutical company and has been the co-founder of centhaquine, which has been repositioned in the treatment of Hemorrhagic shock and it is currently undergoing Phase III Trials at USA after FDA approval. In addition, the Chair of the Department developed a drug (Neuroaspis), which has just successfully completed Phase III Clinical Trial.

Competitive International Research:

We would like to thank the EEC for acknowledging that competitive international research is a clearly stated focus area by the leadership. As mentioned during our discussions all full-time Faculty has acceptable bibliometric scores in various databases. Three members of the Faculty are ranked in the top 97.5% of the researchers according to Scopus, Google Scholar and Research Gate and we do strive to engage our junior Faculty to as many research projects as possible. We do acknowledge, however, the lack of focus so far. Given that EUCMS is a fairly young medical School, in order to enhance opportunities and development for research among our Faculty and staff, the School has refocused its strategy staff recruitment plan to attract expert personnel in research. In addition, one of the acting fronts of the School Mentoring Committee is research promotion for Faculty, staff and students. These actions are complemented by the University policy for Teaching Hour Reduction for research (THR), which is already in place, including the recently approved action by the Senate to initiate teaching hour reduction for research of efforts of newly hired Faculty. As noted in Section 3, EUCMS across its short 6 years of existence, has recruited Faculty with both educational and research experience from other Medical Schools or institutes, including the National Institutes of Health, the National and Kapodistrian University of Athens, University of Chicago, University of Ioannina, UCL, University of Crete, Perelman Medical School, University of Pennsylvania, and University of Strasburg, as well as energetic and committed junior Faculty. Collectively, the primary research areas supported by our Faculty and staff are Cancer, Neurosciences, Infectious Diseases and Medical Education & Translational Research. Nonetheless, research remains in an early stage of development at the School. As such, with the regards to the informal mentoring system that currently exists among staff, senior research Faculty team with junior staff to support their development. The annual summer sessions or summer School (the first session themes are basic research training program, aimed at a more in-depth introduction to basic research, and SP training program) provide additional opportunity to develop research competencies.

Connections to Society:

As noted above in Response #2, the School's articulation with society is manifold.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- **Teaching excellence**
- **Excellent feedback culture**
- **Small Department with personalized teaching and also bottom up approaches**
- **International and transcultural staff and especially students**
- **Motivation, dedication and ambition of the leaders and staff Areas of improvement and recommendations**

We are truly grateful for the EEC positive observations regarding our program. In our effort to build a stronger educational institution, we have focused on how to recruit the right type of students, defining the competencies that our students should gain, recruiting and training the appropriate Faculty and clinical instructors, and supporting career pathways and choices.

The EUCMS across its short 6 years of existence has had the opportunity to recruit Faculty with experience from other Medical Schools, including the National and Kapodistrian University of Athens, University of Chicago, University of Ioannina, UCL, University of Crete, Perlman Medical School, University of Pennsylvania and University of Strasburg, as well as energetic and committed junior Faculty. Both senior and junior Faculty has been positive to feedback and has aimed to achieve excellence.

We have made substantial changes based on our systematic evaluation and feedback from both invited external experts and students. We are extremely grateful for the EEC observation regarding the enthusiasm and dedication of our staff, and how passionate they are about working at EUCMS. We strongly value teamwork and collective contribution. We are also pleased to note that our students also feel that the program is well coordinated and administered, which reflects that they feel safe and valued. We make efforts to embrace and engage all Faculty, staff and students in the School's development and functions. We do strive to be responsive to Faculty, staff and students alike.

Areas of Improvement and Recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

• Ensure recruitment, focused content and means for internationally competitive research to enhance visibility

The Department does intend to increase its Faculty, support staff and resources, and by doing so, scale up its internationally competitive research and enhanced visibility. As noted above, we have already opened new Faculty posts including medical education and research experts. It should be noted, however, that as a new School, recruitment of full-time academic Faculty was stage over the first 6 years of existence. For the full-time Faculty, the aim was to build a team that will potentially work together for many years. In developing and composing the team, an effort was made to recruit individuals at different stages in their careers, to avoid the risk of having a core team that is primarily junior in experience or pre-retirees. While, currently there is a healthy mix of experienced and younger Faculty members that ensures a balance of time-tested wisdom of the senior Faculty and the new ideas from the junior Faculty, recruitment had focused on primary pillars [structural basic sciences (anatomy, histology, etc.), functional basic sciences (physiology, pathophysiology, etc.), and clinical pillars (neuroscience, surgery, child & maternal health, internal medicine and primary care)].

• Improve structured community involvement.

As noted above, we agree with the importance of community involvement. In this regard, we have moved forward to provide a more structured program for exposure to medical practice provided in the community. As such, we have proceeded with appropriate accommodations to address the above as soon as possible:

- Our current student intake allows us now to standardize and streamline the clinical placements, in order to include student exposure to community settings in nearly all disciplines (e.g. placement in both outpatient and inpatient departments during specific rotations).
- The new curriculum includes Family Medicine and Primary Care as a primary clinical training pillar, and as such has foreseen an equal distribution of dedicated contact time in this area, as for all other clinical pillars.
- The new pre-internship rotations in Year 6, which run with longitudinal student placements, allow students to be exposed to the benefits of longer student training with more contact with their clinical trainers, which also facilitate students assuming responsibility. Additionally, EUCMS made focused efforts to further increase its resources for the clinical training of

students. In this regard, we progressed to establish agreements with two locations ("Care Medical Institute" and "Polyclinic") and have developed strategic collaborations for general practice/primary care. The addition of Polyclinic to our affiliated teaching clinics, in addition to supporting the general practice/primary care practice indicated by the EEC, also adds training sites for Ob/Gyn, Internal Medicine, Surgery, Gastroenterology and Pediatrics. As noted above, the School has already planned (in its revised curriculum) to expand the clinical experience of students in years 4-6 by prolonging the semesters with an increase of 4 weeks. Our aim with this is to allow students to become part of the team and follow up on patient care longitudinally and take on more clinical responsibilities during pre-internship training.

As described above, we have made concerted efforts to link with others in academic and health sectors through a series of events. The School's most recent effort has focused on community assistance during the COVID-19 outbreak. As noted above, our young student body has also been engaged in a small-scale community work, and it intends to maximize its efforts to engage the students more in the community the university exists. This year it should be noted that the EUC Medical Student Society also organized the 4th Annual Meeting of Students of Medicine, which serves as a forerunner of annual meetings with high-standards, evidence-based knowledge and interaction between students and medical professionals. Students from all years participated in the meeting with presentations, where they analyzed and discussed issues of scientific content and interest, concerns, as well as informative issues that they developed under the auspices of Faculty members. In addition, the conference included workshops on practical topics and a poster session where research projects of medical students were presented. Students are also involved in the School's COVID-19 outbreak community actions.

2. Quality Assurance

Sub-areas

2.1 System and quality assurance strategy
2.2 Quality assurance for the programmes of study

2.1 System and quality assurance strategy

All documents we have surveyed and the presentations of staff and students as well as the interviews we have conducted suggest a strong awareness for quality and its assurance oriented towards best academic practice. This is also necessary because getting highly qualified students from Cyprus and elsewhere is competitive. The Quality Assurance Policy and System of the Department of Medicine strives to achieve excellence, by focusing on both student involvement and staff development. The Department combines teaching, research and service to patients and society in a dedicated program, based on EBM. Strongest points are student and staff orientation in developing modern approaches to learning, teaching and researching medicine. However, so far the societal impact is little developed and requires attention.

We had the impression of great agility of the leadership of the programs and all involved in ensuring quality. Quality development seems a dynamic and continuous process. Internal benchmarks were developed and rigorously pursued and external benchmarks are followed (national, European and international).

We strongly feel that there are too many committees for such a small Department. This complicates issues and necessitates a laborious and stringent coordination. This could be streamlined.

Academic Practice:

Thank you very much for this extremely positive comment. EUCMS has a well-defined program management system, which under the leadership of the Dean and Chairperson have the responsibility and authority for planning, implementing and monitoring the curriculum, to ensure that intended educational outcomes are reached.

A vital element of the program management, in addition to the Dean and the Chairperson, is the Curriculum/Program Committee which work under the direction of the Dean. Collectively the aim is to monitor, review, and revise the undergraduate medical education curriculum of the EUCMS to ensure continuous quality improvement toward meeting all competencies required of the contemporary physician. The Curriculum Committee receives formal and informal feedback from students, as well as input by course coordinators to ascertain that the curriculum runs to the highest possible standards. To this effect, when data point towards immediate and long term decisions for curriculum improvement, the Dean is informed as to whether an urgent change should be made in the curriculum or the curriculum delivery. These minor changes do not need to undergo the formal procedure of a major curriculum reform. In case of a long term change in the existing curriculum the committee advises the School Council of all necessary changes and the School undergoes the Program Evaluation Reciew (PER) procedure periodically.

The Curriculum Committee uses several instruments to monitor and improve the curriculum. Those include: student evaluation forms, qualitative data compiled by a convenience student sample, interviewed periodically, reports from the course coordinators, advice from the Advisory Board, and feedback from professional bodies, along with input from the various management committees. These reports help the Curriculum Committee determine whether the most appropriate teaching methods and assessments are applied for each course, and by using the expertise of the various stakeholders, is able to incorporate changes and or innovations in the curriculum. These are submitted to the University Senate and are reviewed by the National Agency for formal approval.

The Dean, Chairperson, Program Coordinator and Curriculum Committee meet with each chair of each supporting committee and with the help of the administrative personnel:

- Compiles all the year groups' daily timetables, when and where each session, test or exam will be presented. Support to students is presented on a wide scale – from the day a prospective student decides to apply for possible selection, until the student's graduation ceremony and choice of placement for his/her internship after completion of his/her training.
- Provides day-to-day help, guidance and support to students during their study years on any aspect where a student might come across a problem and need assistance.
- Counsels and support are available for problems of a more personal nature, as well.

The Dean, Chairperson, Program Coordinator have the following activities:

- The coordination of the planning, implementation and management of the new curriculum, and support in all the training activities with regard to organizational and logistic aspects.
- Support the undergraduate students with regard to logistic and organizational aspects in the medical training program, e.g. research projects and additional study material, articles, etc.
- Compilation, duplication and issuing of study material, semester planners and guides.
- Support students in respect of problem management, study problems, emotional problems, and refers students to experts in this regard. Provides students with guidance in respect of existing support structures and persons involved in the handling of financial problems, granting of bursaries, study problems, emotional problems, etc.
- Deal with problems related to the compulsory attendance requirement in the curriculum, submission of medical certificates and all related procedures.
- Deal with problems related to lecture room clashes, obscurities in the program, etc. Plans and coordinates the transport of students to and from external institutions for Community Service training programs.

Combination of teaching, research and service in a program, based on EBM:

The six-year curriculum at European University Cyprus is an *integrated-spiral-design curriculum* that is *competency-based*. Integration reflects courses that not only bring together the various basic disciplines, but also clinical, factual, experiential sources of information. The overall aim is to foster the understanding and performance of professional activities in medicine in our students at an early stage of their education. As such, integration of the curriculum can be viewed as a continuum, with discipline-based teaching at one end and full integration of disciplines at the other. Enhancing the cognitive activities of the students is a critical element required to achieve the high level of horizontal integration envisioned in this revised curriculum. To this end, we have focused on using active teaching modalities that enhance cognitive activities in our students. By this, the aim is to create a conceptual coherence between the various disciplines and allow our students to build an understanding of basic sciences to relevant clinical problems. The curriculum is fully integrated both horizontally (systems-based) and vertically (basic-clinical science). The students move through the three spirals of the curriculum, where learners revisit topics several times, but where the complexity of the material increases with each revisit. As such, new concepts are built on previous learning. As students

move from simple to complex, by mastering topics by building new knowledge to prior knowledge, the spiral curriculum provides reinforcement, a logical sequence of material where the scope and sequence of topics brings order to the growing wealth of knowledge, and most importantly, they are able to achieve higher level learning objectives (e.g. they are encouraged to go beyond factual recall to the application of knowledge).

The curriculum is fully integrated both horizontally (*systems-based*) and vertically (*spiral-design*) and is divided in three educational phases.

Phase I: Foundations of Medicine	(years 1-2)
Phase II: Foundations of Clinical Practice	(year 3)
Phase III: Clinical Medicine Core	(years 4-5)
& Pre-internship	(year 6)

Horizontal integration brings together the various disciplines (e.g. Anatomy, Histology, Embryology, Physiology, Biochemistry) for each module, whereas vertical integration is aimed at bringing together basic and clinical sciences, in order to break the traditional divide between preclinical and clinical studies. As such, the knowledge presented in the basic sciences is placed in clinical context, as well as in context of professional practice. The overall aim is to enhance the acquisition of knowledge, skills, attitude, values and professionalism in our students throughout their medical training. The interdisciplinary units in the Foundations of Medicine phase of the curriculum use a multidisciplinary, systems-based, horizontally integrated approach to teach the normal structure and function of the body, along the continuum from molecules-to-cell to entire functional systems. During this process, students are also introduced to basic clinical skills, and abnormalities in structure and function, when appropriate. The disciplines (Cell & Molecular Biology, Biochemistry) and (Anatomy, Histology-Embryology, Physiology, Biochemistry) are integrated and organized into modules based on foundational concepts or on organ systems. The teaching of communication skills is also fully integrated alongside and introduction to the demands of professional practice and care.

Vertical integration is achieved by the early introduction to clinical skills and clinical thinking and reasoning. During the Foundations of Medicine phase, each module is closed with a session designed to reinforce the basic knowledge acquired and integrate that knowledge with

its clinical significance. Clinicians present clinical association lectures and interactive sessions. Students are introduced to clinical thinking by applying their basic science knowledge to solve clinical problems and case-based sessions.

Research and scholarship as a basis for the curriculum at EUCMS:

Research enhanced learning and teaching is a critical component of the medical curriculum, where research plays a key role in the students' learning and skills development, and encompasses basic biomedical, clinical, behavioral and social sciences research. Overall, research and scholarship in the EUCMS curriculum includes the acquisition of competencies and skills needed for self-directed learning needed to define the knowledge gap, find and access the background information, critically assimilate and appraise the existing primary literature, formulate a scientific questions, design and utilize appropriate methods to address the question, collect and analyze date and then critically review and present the findings within the appropriate context.

Research results, including the Faculty's own results and methods, are used in teaching, across the range of basic to clinical science courses. The School enhances the student learning experiences through research and inquiry-based practice, where the student is directly involved in the practice. To enhance research-based competencies, the School has embraced some educational opportunities, including the engagement of research active Faculty in undergraduate teaching (e.g. full-time Faculty: Professor Anastasis Stephanou, Professor Theoklis Zaoutis, Professor Theodoros Xanthos; Scientific Collaborators, Panagiotis Politis; Adjunct Faculty: Achilleas Gravanis, Philippe Froguel, Gerry Melino, Philip Calder, among others) (https://medicine.euc.ac.cy/our-faculty-2/).

Students also develop their skills in reviewing and analyzing research. This type of inquiry-based learning is applied, for example, in courses like biochemistry, cell biology and genetics where students are given research papers to analyze in poster and oral presentations. Students' summarize key points from specified articles; these ideas are put in the framework of a poster, with relevant supporting literature. The opportunity to synthesize, analyze and apply new knowledge is provided when writing reports in courses such as medical psychology, ethics.

Medical research and scholarship are tightly woven with the EUC medical curriculum. For example, from the basic science courses, students are requested to examine and present recent developments in biomedical research. As the School believes that communication of scientific knowledge is an essential learning tool, students work in small teams (team-based learning) to present the details of publications they studied in poster sessions and mini-oral presentations. Many of the scientific methods that are used in these published studies are methods that the students have already been introduced to, such as PCR, DNA isolation, cell culture, tissue handling, etc. Students are introduced to research in specially designed courses. By engagement in research (via the required course *Research Methods* course offered in the 3rd year and the *Medical Thesis* offered in the 6th year.), graduates will gain "knowledge and appreciation of quantitative and qualitative methodologies, including their differences and usage, as well apply knowledge of scientific methodologies to critically evaluate research findings". During the first of these required phases, each student spends one semester learning about research methods. During the second required phase, each student spends one year completing original clinical, translational, basic or community research under the instruction of a Faculty Mentor. Through these courses, as well as mentorship with Faculty, the School offers opportunities for students to develop their own research capabilities, as they are encouraged to do research projects.

EUC has recently been recognized by the *Harvard T.H. Chan School of Public Health* as official site center to offer a certificate course entitled *"Principles and Practice of Clinical Research"* to interested senior medical students and Faculty. The topic is clinical research and involves the whole spectrum from clinical trials, to study design, manuscript writing, basic statistics and applied statistics, or data analysis just to mention a few topics. Participants range from medical students, to MDs, PhDs, biostatisticians, epidemiologists, nurses to pharmacists and dentists.

Students are requested to critically review the literature in case presentations, scientific poster presentations, PBL etc. throughout their studies, a process which is aimed at analytical and critical review of the published scientific literature to undergo principles of the scientific method. *Problem Based Learning (PBL) via Clinical Problems/Case-Studies* is one of the fundamental integrating methods, both for integration of structure and function knowledge, as well as integrating basic knowledge with clinical relevance. Various techniques are applied in PBL, including clinical cases based on computed tomography, real patient clinical cases, or

documented case presentations. Using group dynamics, PBL promotes communication, professionalism and teamwork. Students learn to research and represent evidence-based articles and use SNAPPS as a technique for clinical case presentations. PBL classes are incorporated into all modules and are facilitated by a Faculty member. Medical research methods are introduced broadly throughout the medical curriculum. Students participate in *in vivo, in vitro and in situ* experiments in basic science courses, such as biochemistry and biology, and are asked throughout their studies to analytically and critically evaluate research papers. The students' performances in these critical evaluations are included in the students' assessments.

Underlying concepts addressed throughout the educational program to ensure that the pillars of scientific method are adequately addressed include:

- Principles of scientific method, including analytical and critical thinking. This is a basic pillar that crosses through the curriculum vertically, through both the preclinical and clinical years, with required clinical problem presentations case-presentations, reviews of basic science publications, etc.
- Medical research methods are introduced broadly throughout the medical curriculum. Students participate in *in vitro and in situ* experiments in basic science courses, such as biochemistry and biology, and are asked throughout their studies to analytically and critically evaluate research papers. The students' performances in these critical evaluations are included in the students' assessment.
- Evidence-based medicine. The School provides evidence-based medicine. By introducing the professional guidelines, from early on in the curriculum (e.g. physiology/pathophysiology) students are exposed to research through presentation of new studies, as well as by the opportunity to do their own studies.
- Students are imbued with the notion that they are never experts, but rather life-long learners.

The curriculum addresses scholarship at several levels, including making connections across disciplines to draw together new insights. Horizontal integration is achieved with Clinical Association Lectures, where instructors bring new insights about original research to draw disciplines together. As an example of inclusion of Clinical Association Lectures, the Structure & Function: Body Systems in Health I (year 1, semester 2), Spring Semester 2017

(Courses: Anatomy, Physiology, Histology/Embryology, Biochemistry and Genetics) with modules Musculoskeletal System, Endocrine & Exocrine Systems, Hematopoietic & Lymphatic System, the Clinical Association Lecture across the semester included:

- Congenital Birth Defects
- Radiologic Anatomy
- Spinal Deformities
- Myasthenia Gravis Tetanus
- Sports Injuries
- Brachial Plexus Injuries
- Spinal Herniations
- Hernia
- Muscular Dystrophy
- Radiologic Anatomy of the Limbs
- Congential Deformities of the Limbs
- Applied Anatomy of the Head
- Thyroid Disorders and Adrenal Metabolism
- Anemia
- Sickle Cell Anemia
- Leukemia/Lymphoma
- Diabetes, Fruegel
- Children Thalassemia

In addition, horizontal and vertical integration of the material is a primary cornerstone to student presentations of PBL when they are requested to apply new knowledge to specific problems.

Policy fostering relationship between medical research and education:

Medical research and scholarship are tightly woven with the EUC medical curriculum. For example, from the basic science courses, students are requested to examine and present recent developments in biomedical research. As the School believes that communication of scientific knowledge is an essential learning tool, students work in small teams (team-based learning) to present the details of publications they studied in poster sessions and mini-oral presentations. Many of the scientific methods that are used in these published studies are

methods that the students have already been introduced to, such as PCR, DNA isolation, cell culture, tissue handling, etc. In addition, the medical curriculum offers a compulsory course to its students on *Research Methods* in Year 3. *Medical Thesis* is required in the 6th year of studies. For this, each student spends one year completing original clinical, translational, basic or epidemiological research, under the instruction of a Faculty supervisor.

In addition, the EUCMS has initiated a Student Summer Externship program. Many of the Student Summer Externships (see Section 6.6) offered by EUC School of Medicine are at internationally renowned research centers (please refer to externship list below, section 6.6 Educational Exchanges). A recent addition to the extensive list of summer research opportunities for EUC medical students is the ability for a summer externship of 8 weeks at the Weizmann Institute of Science, Hebrew University of Jerusalem in the laboratory of Nobel Laureate, Ada Yonath.

Research Facilities of the EUCMS

The recently founded EUC School of Medicine Innovation Center (MedIC), in collaboration with distinguished scholars from Cyprus and abroad aims to serve as the regional research platform in biomedicine, targeting not only the region of Cyprus, but also an international level. With an emphasis on interdisciplinary approaches:

MedIC Basic Science Research Laboratory: The new research lab that Medical School is equipped with interactive work surfaces sustaining many fields including Microbiology, Cell Biology and Biochemistry. The laboratory consists of an innovative cryotome, microtome in addition to further equipment required for preparation and cutting of fresh tissue. Incubators for growing cultures and centrifuges and various equipment to fulfill the needs of our researchers. All DNA, RNA and protein-related techniques such as DNA/RNA extraction, Western blotting, RT-PCR, imaging techniques and immunochemistry can be performed.

Research Aims & Priorities: The aim of MedIC is to become globally recognized for excellence in scientific discovery, collaboration and the rapid translation of new knowledge into practice than improve human health.

To achieve this vision, the MedIC will:

- Nurture, support and invest in a scientific culture that rewards innovation and collaboration

- Strengthen our research training infrastructure and create new educational models and curricula that advance scientific excellence
- Develop strategic external interactions and partnerships
- Increase awareness, understanding and support for MedIC biomedical and clinical research (https://medicine.euc.ac.cy/research/).

The following important steps aim to promote and develop the EUCMS international research policy:

- The Medical School is oriented to the principle of collaboration with a variety of national and international partners, including the German Oncology Centre (Limassol), the University of Gratz (Austria), MRC toxicology (London), Hadassah Medical Center (Israel), ELPEN experimental laboratory (Athens).
- The EUCMS research strategic plan has recruited of experts in the medical research field as Faculty members (Honorary and Visiting Professors).
- Research is highly translational, moving from the bench to the bedside, in the noble attempt to advance the overall standard of care.
- The School now has started establishing cultural exchanges (medical students, MSc, PhD students or postdoctoral fellows) and joint programs with other academic institutes.

Research priorities:

- Identify and invest in areas of research strength that make best use of the School of Medicine resources to advance human health and well-being
- Advance the School of Medicine's capacity in translational research
- Promote research excellence through effective organizational systems and infrastructure
- Enhance training, career development and mentoring opportunities for the next generation of biomedical researchers
- Promote, nurture and support a professional rewarding culture for researchers at MedIC
- Increase awareness, appreciation and understanding of the valued of research at MedIC to both internal and external stakeholders and the public.

Both Faculty and students have access to basic and clinical research facilities provided at the Medical School and collaborating centers. A fully equipped bench is available in the wet labs,

as well as equipment for modern, molecular biology, biochemical and genetic studies (see below). Faculty and students also have access to other research resources at the American Medical Center and the German Oncology Center. All sites facilitate basic research projects, and translational clinical studies.

In order to promote research among its Faculty, the MedIC has produced an inventory of research interests and research achievements of its Faculty. The goal is for the future research policy of EUCMS to include projects and research projects that evolve around these research interests, in order to further promote the activity and output of its Faculty.

Indicative activities of the MedIC 2017-2018:

Publications in refereed journals (2017-2018):

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Presentations in International Conferences:

- Professor A. Stephanou presented at the 11th Workshop of Cell Death, 6-11 May Fuiggi, Italy 2018

- Professor A. Stephanou presented at 5th International Multi-thematic Scientific Bio0Medical Congress 2-4 November 2017, EUC, Cyprus
- Prof. E. Johnson, lecture “Neuroanatomy of Stress: Understanding Neural Circuits in Stress & Stress Disorders” at 1st International Congress of Institute of Stress Biology & Medicine, 20,01, 2017, Athens, Greece
- Prof. E. Johnson, Lecture “Neural Circuitry of Stress” at 5th International Multi-thematic Scientific Bio-Medical Congress 2-4 November 2017, EUC, Cyprus
- Prof E. Johnson, Lecture “Cortical Functional Anatomy” at the Intracranial Glioma Workshop: From A to Z, April 6-8, 2017, Larissa, Greece
- Prof E. Johnson, Lecture “Neuroanatomical correlates & vulnerability to stress & depression” Jan 20, 2017
- Prof. E. Johnson, Lecture “Learning about the brain” Brain Awareness Week, Federation of European Neuroscience Societies, Niarchos Foundation, May, 2018
- Prof. I. Patrikios, Invited Speaker, Neuro-immunology congress Thessaloniki, Dec 2017 “Neuroaspis as a novel therapeutic intervention for Multiple Sclerosis”
- Prof. Patrikios, Invited Speaker, ANIVA pharma at ECTRIMS France, September 2017 “Specific structured molecules and antioxidant vitamins in neurodegenerative diseases”
- Prof. Patrikios, Invited Speaker, Multiple sclerosis congress, Larissa, October 2017 “Inflammation in multiple sclerosis”
- Prof. Patrikios, Speaker, 5th international congress IMBMC, Nicosia Cyprus, Nov.2017 “Omega-3 Fatty acids and gamma tocopherol in the treatment of autoimmune, neurodegenerative diseases.”
- E.-N. Emmanouil-Nikoloussi. Prevention of birth defects in contaminated areas. Special Invitation of the EUROPEAN PARLIAMENT .Roundtable on Health risk prevention in EU areas characterized by High Environmental Pressure 6 December 2016 European Parliament - Room ASP1H3
- E.-N. Emmanouil-Nikoloussi.Air pollution and prenatal development. ETS Invited Award Lecture. Reproductive Toxicology Journal .V 72.13-14, 2017
- E.-N. Emmanouil-Nikoloussi. Nanoparticles , environmental pollutants and pregnancy outcomes. Invited Lecture at the 14th International Conference on Nanosciences & Nanotechnologies (NN17) 4-7 July 2017,Thessaloniki, Greece

- E.-N. Emmanouil-Nikoloussi. Particulate Matters-PM, Endocrine Disruptors and fetal disease susceptibility in polluted contaminated areas. Invited Lecture at the 15th International Conference on Nanosciences & Nanotechnologies (NN18) 3-6 July 2017, in Thessaloniki, Greece

Research Proposals submitted

- ESFRI projects / Landamarks (Directorate General for European Programmes). Title: EU Open Screen- European Research Infrastructure of Open Screen Platforms for Chemical Biology (AS)
- ESFRI projects / Landamarks (Directorate General for European Programmes Title: CESSDA-Consortium of European Social Sciences Data Archives (EN)
- Platform for Biosciense and Human Health in Cyprus: Enabling Synchrotron Analyses of Modern and Ancient Human Tissues (BEST Platform). Submitted with EUC as a Partner (EN)
- INFRASTRUCTURES/1216/0009 – BioMERA-platform. The Submitted Proposal has passed the First Stage of Evaluation and selected for the second stage of Evaluation.. Submitted with EUC as a Partner
- GENDER-NET Plus ERA-NET Cofund Digital registration: Neurodegenerative Cohort Cyprus/Athens AND Response to stress cohort EU /CING as Partner (IP, AS EJ) Total share 80,000 24 months
- The Research Promotion Foundation Programmes For Research, Technological Development And Innovation "Restart 2016 – 2020" I Nternational Collaborations – Dual Targeting (Cyprus – United Arab Emirates)
- Title: Characterization of the Phyto-compound Annonacin as an Anti-Cancer Agents: Novel activity as inhibitor's of SERCA and Na+/K+-ATPase Pumps
- EUC as coordinator (AS and IP) 100,000 24 months
- The Research Promotion Foundation Programmes For Research, Technological Development And Innovation "Restart 2016 – 2020" I Nternational Collaborations – Dual Targeting (Cyprus – USA)
- Title: Relationship Between Infection with Human Adenovirus-36 (Adv36) and the Etiologies of Obesity and Obesity-related Breast Cancer
- EUC as coordinator (IP AS)) 100,000 24 months
- 350 Merck Research Grants application

- Title: Investigating the role of Tripterygium Wilfordii Hook F and its Phyto-compounds as Anti-cancer Agents
- EUC PI (AS) 350,000/a for 3 year
- EUC as partner (CT) in a proposal for Transnational network for antimicrobial resistance and One Health: building interdisciplinary virtual research institute - Eighth Joint Transnational Call For Networks Within The Joint Programming Initiative On Antimicrobial Resistance: 50,000 euros, 12 months.
- EUC as Secondary Proposer (GP, CT) in COST Network "Towards One Health: an interdisciplinary approach to bio-social antimicrobial resistance ecologies".

Interaction Between Medical Research & Education Influences Teaching

The School enhances the student learning experiences through research and inquiry-based practice, where the student is directly involved in the practice. This is achieved, in part, by the engagement of Faculty who are active in research (see above). The students of the EUC Medical School, in collaboration with Faculty, have a rigorous research activity. Several students have presented in international scientific congresses (such as Diabetes UK, PanHellenic Orthopaedic Congress, World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases, European Association For The Study of Diabetes Annual Meeting, European Teratology Society Annual Meeting, Hellenic Medical Students Association meeting). Students have also published scientific papers in peer-reviewed journals (such as the *Archives of Hellenic Medicine, EC Neurology, Cell Death and Disease, Experimental and Clinical Endocrinology and Diabetes, Plos ONE*).

Medical research and scholarship are tightly woven into the EUC medical curriculum. For example, from the basic science courses, students are requested to examine recent developments in published biomedical research, both basic and clinical in nature. As the School believes that communication of scientific knowledge is an essential learning tool, as well as skill, students work in small teams (team-based learning) to present the details of the publication they studied in a poster-presentation and mini-oral presentation. This allows the student to be introduced to scientific methods by example. The clearest example of the scholarly environment that the School provides for students is the *Research Methods* course offered in the 3rd year and the *Medical Thesis* offered in the 6th year. During the first of these required phases, each student spends one semester learning about research methods. During the second required phase,

each student spends one semester completing original clinical, translational, basic or community research under the instruction of a Faculty Mentor.

Encouragement and Preparation of Students in Medical Research

Research is embedded in the curriculum with the integration of research, teaching, and learning comes in a multiplicity of ways, including the Research methods course in Year 3 and the Medical Thesis throughout Year 6. The EUCMS has directed its attention to ensuring that links between teaching and research are made explicit, and are incorporated into undergraduate as well as postgraduate courses.

Various collaborative projects between Faculty and students are currently taking place, including a screening project for cardiovascular risk factors in the local community, a survey infection control knowledge and attitudes among medical students, and an experimental research project on bacterial translocation following cardiac arrest and resuscitation.

In recent years, the School has significantly increased its research portfolio. Research spans from fundamental biology through translational research to population and clinical research, with an emphasis on research that can be translated into improvements in human health and wellbeing. Many Faculty members in the School are active investigators with strong collaborations within and out of Cyprus. The School has a well-defined research strategy, which seeks to build a strong performing research center and to leverage this to drive impacts on healthcare, international collaboration and innovation

Societal impact:

As noted in detail above, we agree and strongly believe that addressing societal needs is of pivotal importance for any medical School. Due to time constraints during the departmental evaluation noted above, we were unable to demonstrate the efforts we have done for community outreach programmes.

Great agility of the leadership:

We are extremely grateful to the EEC for this observation. The Leadership of the Department receives regular feedback both formally and informally from students and staff and strives to be responsive to all feedback it receives. In addition, the leadership has always taken into serious

consideration the suggestions from both Administrative and Technical Staff, and has always worked closely with staff. EUCMS leadership has imbued the need for excellence in the Department, recognizing that this is achieved not by a momentarily action, but rather, by habit. More importantly, the excellence that all members of the Department have strived to obtain in the program and School is dependent upon accepting critical evaluation of our performance and acknowledging areas that need improvement. In this regards, we are grateful to the EEC for their candid discussions regarding our program, and the insightful comments and suggestions throughout their report.

Number of Committees:

To achieve continuous review and renewal the Department formed several subcommittees to assess and monitor the various components of its function. In addition to the newly formatted Curriculum Committee, these include the Clinical Training Committee (CTC), the Structure & Function Committee (S&F), the Assessment Committee, the Quality Control Committee, the Academic Committee and the Admissions Committee. The joint efforts of the Dean, Chair, sub-committees, Councils and stakeholders, allow for an effective processes to review and modify when needed all primary components related to the identity and function of the School, such as Mission, Vision, curriculum, educational outcomes, instructional methods, areas of medical focus, assessment methods, Faculty recruitment, student admissions, program monitoring, among others. Presently, the Research website and Research Committees have merged. Now that the Medical Greek program is developed, the committee has merged with the Academic Committee. Importantly, however, the initial large number of committees ensured Faculty involvement, and in turn, engagement in the governance and decision making of the Department during this important developmental phase.

2.2 Quality assurance for the programmes of study

The Department is well-equipped. The Institution offers modern and newly-built state-of-the-art facilities. The laboratories are well structured. There is access for disabled persons and also a special center for supporting students in general and students with special needs and learning disabilities.

Thank you for this comment. We take great pride in our facilities and we pay special attention to support our students with special needs and learning disabilities. The learning environment at the Medical School provides diverse physical locations and contexts to facilitate student learning. These learning environments have both a direct and indirect influence on student learning, including their engagement in what is being taught, their motivation to learn, and their sense of well-being, belonging, and personal safety.

The School of Medicine has facilities dedicated to preclinical years and the theoretical and skills training of the students during their clinical years. Facilities enable dynamic learning, and provide state-of-the-art teaching tools, including the active incorporation of technology to enhance student learning. Facilities include dedicated *Anatomical Model Rooms, Microscopy Rooms*, *Computer Assisted Learning (CAL) Rooms, Wet Laboratories, High-Fidelity Complex Simulation Rooms*, *Procedural Skills Training Room with Task Trainers*, as well as *Standardized Hospital Training Suite with 6 Hospital Beds and Nursing Station*. European University Medical School consist of state of the art *Wet Laboratories* for Medical Biochemistry, Cell Biology/Genetics and Basic/Medical Microbiology are fully equipped with latest apparatuses according to safety standards and guidelines. The above-mentioned laboratories are multidisciplinary labs were students facing techniques found in standard diagnostic and clinical laboratories. *Facilities*. Each space is designed to allow for instruction of 1 student cohort (15-20 students, 3-4 teams), along with instructors and support staff, as per the curricular design.

The clinical training initiated from the first year and is supported by dedicated educational spaces. The School houses four *High Fidelity Complex Simulation Rooms* with connected debriefing rooms and adjacent control rooms, which allow educators to simulate in a controlled environment, patient scenarios covering the entire span of the medical education of EUC

students from Body Systems in Health (Years 1-2), Body Systems in Disease (Year 3) and Core Clinical Courses (Years 4-6). Manikins selected to fit the needs of learning outcomes and meet the quality standards. The School, houses both male and female simulators, a baby and a next generation birth delivery simulator. The simulation space includes dedicated debriefing rooms allowing an interactive discussion between instructor and class so that they can analyze the course of the events and actions that took place during the simulation. State-of-the-art audiovisual support for recording of the simulation scenarios and events, for later study and analysis and dedicated control centers for careful monitoring of the scenario and student-learning environment.

Clinical skill acquisition is a central cornerstone in the EUC curriculum and is further enhanced with a modern *Standardized Hospital Training Suite with 6 Hospital Beds and Nursing Station* that is fully equipped with various apparatuses, including ECG and ultrasound machines, as well as low fidelity manikins. The simulated hospital ward is used not only in the clinical courses, such as Clinical Practicum, Introduction to Clinical Skills, Semiology, Surgery, among others, but also in basic science courses, such as Physiology, Pathophysiology, and Anatomy. Three *Simulated Consultation Rooms* with adjacent debriefing rooms help students to learn physical examination procedures and doctor-patient interaction. These spaces are also used for the OSCE (Objective Structured Clinical Examination) exams.

An important learning environment provided by EUC is the *Procedural Skills Training Room with Task Trainers*. This dedicated space provides stations with equipment and checklist available for students to learn various skills, such as 1) obtaining arterial blood gases, 2) suturing, 3) intubation, 4) nasopharyngeal intubation, 5) urine catheterization (male-female), 6) intravenous lines, 7) lumbar puncture, 8) hand hygiene, 9) blood pressure measurement, 10) capillary blood glucose measurement, among others. Additional facilities, including a SECTRA table for anatomy, radiology, histology and pathology training and an ultra-sound trainer are available and readily used by student teams during practical training sessions. All learning spaces of the School are aligned with the National and University health and safety standards. (These are outlined in the *University Safety Guidelines*.) These guidelines are given to both Faculty and students. In addition, students attend a lecture on health and safety, and are required to pass an exam on the guidelines before they can attend wet laboratory activities.

EUCMS has state of the art teaching and research facilities that support well the education of medical students, provide an engaging learning experience and support the research mission of the School. Both students and Faculty have expressed a high degree of satisfaction with the educational facilities of the School. The facilities in the main building of the School, including the Simulation and Clinical Skills Training Complex are in high demand across the education continuum. Teaching spaces are sufficient to deliver the curriculum and to innovate or modify the curriculum, as necessary.

Practical and skills training facilities are designed for pre-clinical practical teaching cohorts are about 20 students and clinical teaching cohorts (during clerkships) are about 3 to 6 students.

Simulation & Clinical Skills Training Complex

EUC's systems-based spiral curriculum achieves vertical integration with the early introduction to clinical skills, thinking and clinical reasoning from the first year of studies. From their first through their sixth year, simulation training guides students through progressively more complex skills and scenarios, preparing them for increasing patient care responsibilities. At EUC, simulation plays a central role in a student-directed learning model. By mimicking real life medical situations, the Simulation Complex gives students the opportunity to practice clinical procedures, within the safety of a controlled environment. Students, and ultimately their future patients, are the primary beneficiaries of this advanced technology.

The Simulation & Clinical Skills Training Complex is comprised of:

1) *High-fidelity Simulation Complex rooms* (three), each with dedicated *Debriefing and*
3) *Control Rooms*,
3) *Simulated Outpatient Consulting Rooms* (two), each with dedicated *Debriefing Rooms*,
4) *Procedural Skills Training Room* with advanced *Task Trainers* to provide hands-on practice in essential skills and procedures, and
5) *Standardized Hospital Training Suite* (6 teaching-beds and nursing station).

Simulation training in the 3 complex simulation rooms, and task training using over 20 dedicated task trainers cover an average of 43 hours simulation teaching per week across both preclinical (e.g. physiology, clinical practicum, pathophysiology, semiology, etc.) and clinical courses (respiratory medicine, cardiology, etc.)

Fully trained and devoted technicians and nurses provide technical support during student simulation and task training. True to the concepts of modern medicine, the Simulation Complex embraces an interdisciplinary approach to both teaching and training, involving various disciplines.

I. High-Fidelity Simulation Complex

Simulation is advantageous in providing safe, controlled environment that eliminate risk to patients. The EUC Simulation Complex provides authentic, realistic contexts for learning, allowing students to put the latest clinical advances into immediate practice. It mitigates the traditional ethical dilemmas of medical training by reducing patient exposure to inexperienced trainees.

The School of Medicine uses four high-fidelity patient simulators that can be programmed with patient characteristics, and can mimic physiological conditions (vital signs) and disease processes. In the adjacent control rooms, instructors, through headsets and video monitoring communicate with and observe their students, as they manipulate vital signs to respond appropriately to various drugs and interventions performed by the students. Instructors can tailor simulators and scenarios to train specific technical skills or other abilities and attitudes, including teamwork, communication skills and leadership.

The EUC simulation complex uses various technology modalities to create highly realistic scenarios for procedural training that is appropriate for each year of studies. Over 300 simulation scenarios support the student training; EUC instructors have devised over 60 scenarios, specific for the teaching needs of students. Each scenario is designed to imitate real patients, anatomic regions, clinical tasks, and/or mirror the real-life circumstances in which medical services are rendered.

1. Simulation Rooms (3 high fidelity simulation rooms, 4 high fidelity simulators)
2. Debriefing Rooms (3 debriefing rooms dedicated for simulators)
3. Control Centers (3 centers)

II. Simulated Outpatient Consulting Rooms

Two outpatient rooms, each with the respective observation/debriefing rooms for simulated patient encounters. Additionally, this 15 seats space is also used for objective structured clinical exams (OSCE) for observing and acting in patient simulated scenarios using trained

actors. Both rooms are equipped with the standard equipment of a doctor's office, such as blood pressure meter, weighing balance, temperature meter and a stethoscope.

1. Consulting Rooms (2 consulting rooms)
2. Debriefing Rooms (2 debriefing rooms dedicated to consultation rooms)

III. Procedural Skills Laboratory

Clinical skills acquisition is a central cornerstone in the MD curriculum. The skills training lab contains 6 skills stations with 39 skill trainers (for catheterization, intubation, auscultation, blood collection/drawing and surgery/laparoscopy), which allows 20-24 students be trained each time. All courses that involve skills training use this lab for the practice and skills demonstrations. Students have access to the skills lab for independent study to improve their basic and complex clinical skills.

1. Skills stations (6 stations, 3-4 students/station)
2. Various Skills Trainers (39 skills trainers)

IV. Standardized Hospital Training Suite (Hospital Ward)

The simulated hospital ward contains six patient beds fully equipped with standard hospital bed equipment, and a centralized nursing station. Standard equipment includes blood pressure meter, temperature meter, and x-ray viewers and some advanced equipment, such as ultrasound, and electrocardiograph.

1. Simulated Hospital Ward (6 beds)
2. Nursing Station (1 nursing station)
3. Special Care Station (1 special care station)

Practical Teaching Infrastructure

I. Wet Laboratory Complex

The rationale of students performing wet-lab experiments is that it transfers skills (*experience-based learning*), including critical thinking required in research and/or reviewing evidence-based medical practices. Pre-clinical course (yrs 1-3), such as Biochemistry, Cell Biology, Genetics and Microbiology, have wet lab activities. Each wet lab is able to accommodate about 20 students who are trained with the latest technology and apparatuses in sessions that give them the opportunity for hands on practice. Students learn the latest techniques for DNA isolation, biochemical analysis, cell and bacteria culturing, among others.

1. Cell Biology / Biochemistry Laboratory (2 wet labs)
2. Microbiology / Pathology Laboratory (1 wet lab)
3. Research Laboratory (1 research lab)

II. Structural Sciences Laboratories

Anatomy laboratories contain high fidelity models for all anatomical structures. The rationale of plastic models is that they show internal organ relationships and allow students to repeatedly study a specimen with minimal wear & tear. Models are molded to represent the standard and normal shape in a color-coordinated fashion, which make initial learning of complex anatomical structures easier. In addition, plastic models teach 3D comprehension and anatomical reasoning by showing the spatial relationship of the structures, which strongly correspond to the human body. Although these models are associated with a low fidelity and show only a small number of structures, which often lack accurate representation of shape and surface details, they remain an important teaching adjunct. The Anatomy and Embryology laboratories at EUC are equipped with a wide range of anatomical models, bone boxes and full skeletons for effective laboratory instruction.

Histology provides a primary bridge from the macroscopic field of gross anatomy to the molecular sciences, including biochemistry, physiology and pharmacology. In addition to linking the visible and submicroscopic dimension, it serves as a gateway to pathology. As a scientific field, it has always relied on technology, with high quality microscopes enabling students to interpret tissue structure and function. Microscopes are used to teach students the intricacies of manipulating a light microscope. The main advantage of the real microscope over virtual microscopy is it provides the vestige of three-dimensionality obtained using the fine focus knob on the regular microscope. For this reason, students at EUC are exposed to light-microscopes.

1. Anatomy Laboratory with High fidelity model room (3 model rooms)
2. Formalin Fixed Cadaveric specimen
3. Microscopic Anatomy Room (1 microscope room)

III. Computer-Assisted Learning (CAL) – Virtual Learning Laboratories

Computer assisted learning augments, enhances and improves instruction of all structure and function modules. It promotes independent learning, problem solving, and allows schedule

flexibility. The increased collaboration between disciplines has led to advances in anatomical informatics, three-dimensional modeling and virtual reality methodology, which in turn, have made computer-based structural visualization a new and practical tool for structure and function education. The value of CAL is that it allows individual students to learn at their own personal pace. 3D engagement tools provide interactive models of the human body for students using the web browsers provided in the computer lab or mobile apps. To enhance our educational program at EUC, computer-based instruction and other interactive computer-related activities have been effectively integrated into the total instructional process.

1. CAL Study Rooms (3 CAL rooms)

<u>Theoretical Teaching Infrastructure</u>

I. Lecture Halls

1. Large Multiuse Auditorium / cultural center (1 auditorium)
2. Multiuse Auditoriums (4 auditoriums)
3. Lecture Halls (2 lecture halls)

II. Classrooms

III. Conference Rooms

1. Small Conference Room (1 small conference room)
2. Large Conference Room (1 large conference room)

<u>Supplementary Infrastructure</u>

I. USMLE Examination Room (for approval)

II. Offices

III. Additional Support Spaces

1. Stock rooms
2. Student Locker Rooms

The alarming statistics in errors that plagues medicine has been attributed to inadequate education and inappropriate skills training. Modern medical education calls for critical thinking and collaborative problem solving, using state-of-the-art technology. Despite the tremendous advances in medical technology and education, medical Schools still teach using traditional methods, where meaningful clinical exposure does not begin until late in the student's education. This results in a lack of clinical skill integration and a poor understanding of the

concepts that form the basis of modern clinical practice. The Simulation Complex constitutes a significant departure from the traditional teaching generally applied.

The School's systems-based spiral curriculum achieves vertical integration with the early introduction to clinical skills, thinking and clinical reasoning from the first year of studies. From their first through their sixth year, simulation training guides students through progressively more complex skills and scenarios, preparing them for increasing patient care responsibilities. The School's simulation complex uses various technology modalities to create highly realistic scenarios for procedural training that is appropriate for each year of studies. Over 300 simulation scenarios support the student training; instructors have devised over 60 scenarios, specific for the teaching needs of students. Each scenario is designed to imitate real patients, anatomic regions, clinical tasks, and/or mirror the real-life circumstances in which medical services are rendered. Simulation training in the 3 complex simulation rooms, and task training using over 20 dedicated task trainers cover an average of 43 hrs simulation teaching per week across both preclinical (e.g. physiology, clinical practicum, pathophysiology, semiology, etc.) and clinical courses (respiratory medicine, cardiology, etc.). Fully trained and devoted technicians and nurses provide technical support during student simulation and task training. True to the concepts of modern medicine, the Simulation Complex embraces an interdisciplinary approach to both teaching and training, involving various disciplines.

At the School of Medicine, simulation plays a central role in a student-directed learning model. By mimicking real life medical situations, the Simulation Complex gives students the opportunity to practice clinical procedures, within the safety of a controlled environment. Students, and ultimately their future patients, are the primary beneficiaries of this advanced technology. Mastery of clinical tasks follows a steep learning curve, with implications for patient safety. The complex allows students practice the latest clinical skills, while mitigating the ethical dilemma of patient exposure to inexperienced trainees. The later often results in high liability costs to medical institutions, and extensive care to patients inappropriately treated by inexperienced trainees. Simulation improves student performance across the healthcare continuum. Students trained in the Simulation Complex perform competitively [Award: Best Prototype, Image-Guided Minimally Invasive Surgery, Business Engineering Surgical Technologies Innovation Course].

The state-of-the-art infrastructure has received two Creston International Awards: "Best Educational Installations" and "Best Medical Solutions". The complex and high-fidelity simulators have been upgraded continuously. The original simulator (SimMan) was upgraded (new patient monitor, 2015); the Simulation Pad (wireless simulator) was upgraded with pre-made scenarios (new patient monitor, 2016); the high-fidelity simulator (Victoria) was acquired (2017) and additional parts were added to improve fidelity and enrich scenario options. Moreover, academic leads and senior technicians attend advanced training sessions with new non-human high-fidelity simulators. The School also hosts a yearly "Train-the-Trainers" seminar dedicated to teaching instructor's simulation, task training, and updating on new scenarios.

Systems to ensure security of students and family

The School strives to provide a safe and secure environment for students through the various systems in place at the campus. The University has its own security guards on a 24/7 basis and first aid services. In addition, special attention is paid to the safe disposal of sharps and all contaminated material and to date no incidence has been reported.

Improvement of the learning environment

The EUCMS strives to incorporate interventions to improve the learning environment for all, including planned new activities (e.g., near peer teachers) or organizational change (e.g., training sites) that are anticipated to have an impact on the learning environment. In addition to space modifications to facilitate team-based learning, the facilities and equipment are updated regularly to improve the learning environment. The simulation and skills training complex was founded in 2013, the first academic year of operation of the EUCMS. Since then, the complex and high-fidelity simulators have been upgraded continuously. The original simulator (SimMan) was upgraded (new patient monitor, 2015); the Simulation Pad (wireless simulator) was upgraded with pre-made scenarios (new patient monitor, 2016); the high-fidelity simulator (Victoria) was acquired (2017) and additional parts were added to improve fidelity and enrich scenario options. Other additions to the learning environment include the addition of SECTRA and V-Medics Ultrasound Trainer.

Findings

1. **All formal and also realization of Quality assurance seems to be applied. There is also a clear ambition to set examples by high quality, objectively assessed by stakeholders such as students.**

The EUCMS is extremely pleased that the EEC not only found that the School has an effective learning environment, but also that our staff is well-qualified and passionate about their work and that we have a clear ambition to achieve the highest quality. We have worked hard to maintain our learning environment at the highest standards. Our staff members have a strong work ethic, and work with passion, dedication and ethos. The EUCMS academic leadership is extremely grateful to the entire staff for their enthusiasm and dedication. Without their continuous efforts and support, much of what the Department has accomplished would not have been possible. EUCMS leadership has imbued the need for excellence in the medical Department, recognizing that this is achieved not by a momentarily action, but rather, by habit. We would like to thank the EEC for recognizing that our School facilities and resources are excellent, making a very attractive work environment. We have worked hard, to maintain our estate at the highest standards, and take extreme pride in our powerful and welcoming learning/working environment for the entire EUCMS community. We take particular pride in our skills rooms, simulation center, laboratories and classrooms.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- **Quality assurance is systematically and credibly applied.**
- **An example of good application of systematic feedback is an App that allows students to grade a teaching unit almost real time. Teachers get this and are also controlled by this way to make sure that their units are up to required levels.**
- **Numbers of attendance to teaching units and quality are good.**
- **In spite of the many different countries that the students come from, staff tells us that there is coherence, a common spirit and even pride in being at the European University, Medical School, Department of Medicine, but that creating it is a challenge with students coming from very diverse cultural backgrounds.**

We are grateful that the EEC acknowledges our efforts to ensure quality assurance with a

substantial system and quality assurance strategy and in regards to the program of study. With regards to the former, the documentation of the principles, strategy and quality assurance is a high priority for the Department. This is particularly shown in the various publications, particularly the Quality Assurance Guide. The Department seeks systematic feedback from students, using a wide range of methods.

We have focused efforts towards both horizontal and vertical integration between courses, particularly of the preclinical years, with year 3 facilitating the transition from basic to clinical education. As noted by the EEC, small-group teaching and training represents the core of the weekly schedule of our educational program. We are grateful the EEC acknowledges the Department's concerted effort to teach students in small groups. We foster team-based learning in small peer groups for all practical skills sessions, with cohorts (15-20 students, consisting of 3-4 peer teams of 5 students each) in preclinical years. The majority of clinical teaching contact time is spent in smaller rotation groups of 3-6 students. The Department encourages, supports and nourishes cultural diversity. EUCMS strongly advocates that cultural and socio-economic diversity offer the students and the Faculty a dynamic learning environment. We also believe that learning with a culturally diverse student body, may help better prepare students to work with patients from different cultural/ethnic backgrounds. In general, EUCMS promotes a culturally inclusive teaching environment aimed at developing culturally competent healthcare workers.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

No specific recommendation: Keep it up as student numbers increase.

The EUCMS is extremely pleased that the EEC recognized our efforts for effective quality assurance. The excellence that all members of the School have strived to obtain in the program and School is dependent upon accepting critical evaluation of our performance and acknowledging areas that need improvement. In this regards, we are grateful to the EEC for their candid discussions regarding our program, and the insightful comments and suggestions throughout their report.

3. Administration

The Department continuously monitors quality indicators of each program. Students evaluate instructors via an App and anonymous electronic questionnaire and vice versa students are monitored. Those indicators are used for benchmarking concerning teaching, resources, etc. Class attendance, Class size, average mark, dropout rate, graduate employment rate is continuously monitored.

The School of Medicine has the administrative and professional staff that supports the full implementation of the activities and educational program & ensures good management & resource deployment.

The *School Administrator* manages the academic and administrative operations of the School and serves as the liaison between the School and other departments across the University (academic or otherwise) for determining University-wide policy, procedures, and services. Among the various duties, the Administrator prepares School/Department documents; attends council meetings, keeps minutes and follows up with appropriate individuals to ensure agreed upon action is taken; prepares and forwards to the Senate, via the Rector's Office, all relevant documentation, liaises with other institutions, external agencies and government departments, administers procedures in relation to Faculty promotion and hiring (sets up meetings, circulates relevant documentation and keeps minutes), etc.

The secretary of the School of Medicine is not a conventional secretary in any other School or Department. The secretary in the School of Medicine is in effect the *"Secretariat of the School".* Among various activities the School secretary, provides daily assistance to students and handles possible grievances and acts as liaison between students, teaching personnel, the Administration and the Dean; processes, proofreads and archives course outlines, mid-term examinations and final examinations, prepares cancellation notes, e-mail correspondence, student notifications for cancellations and rescheduling of classes, preparation notes for rescheduled classes and has the responsibility of drafting the class cancellation report every month, processes final grades, etc.

The *Head Technician Administrator* schedules and monitors the activities of the laboratory facilitators, wet lab technicians, simulator technicians, nursing personnel and any other

individuals involved in student practical training activities. The Head Technician is responsible for ensuring adequate training of all technical personnel and maintenance of safety regulations within all practical training facilities. The Head Technician is responsible for the budget required for technical equipment and supplies, as well as computers for scheduling of labs, including instructor assignments of lab space.

Laboratory facilitators / instructors are dedicated to teaching in the laboratories. These special instructors teach students primarily in anatomy, physiology, histology/embryology, pathophysiology, semiology, clinical skills and surgery laboratory activities. They work closely with the course coordinators, and help devise the laboratory component of each respective course, with specific laboratory plans, student assessment, etc., as required.

Technicians serve critical role in allowing student laboratory training to operate accordingly. In addition to lab set-up, take-down, student monitoring, and other student training related activities, wet lab technicians are skilled in various methodologies to assist in Faculty and student research endeavors.

The simulation and skills center requires specially technical personnel (usually nurses) specially trained in simulation. Simulation and skills training is a pivotal part of the School's curriculum and is actively used across the six-year curriculum. Simulation technicians are responsible for maintaining the working integrity of the simulation and skills rooms, operating computer control systems of simulators alongside Faculty, video-recording and monitoring simulations, scheduling Faculty and student sessions, among others. Each technician places all simulation program material related to scenario in computer, sets up mannequin and equipment, stays with professor during entire scenario, problem solves and functions to allow professor to focus on teaching students relevant skills. In addition to ensuring that everything is ready once the instructor has sent the materials needed and scenario, the tech also schedules spaces.

IT technicians maintain and support audiovisual and technological functions throughout the EUCMS.

Nursing Personnel: Clinical visits are an integral part of the EUC curriculum, starting at the First Year with the Practicum. Nursing personnel are required to facilitate these visits, student attendance and hospital communication. One senior Nurse, the *Clinical Training Assistant*, monitors M.o.U. issues and required paperwork.

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

- **Small, efficacious and very friendly administrative staff**
- **Direct and easy access to staff members**
- **The administration clearly and adequately understands its task as serving students, teachers and researchers.**
- **It serves the University and Department very well.**
- **It seems very flexible, dealing with needs in an orderly and fast manner.**

We appreciate the EEC's acknowledgements of our administrative structure and function. Our administrative staff is fully engaged in the Department's activities, and facilitates the smooth function of the Department. We take great pride in our Administrative and Technical staff, who are not only very well educated and trained, but strive for personal improvement. The entire support staff has been proven wholeheartedly supportive to all changes that have taken place over the last years, and more importantly have proven pivotal for these changes to take place. The leadership has always taken into serious consideration the suggestions from both Administrative and Technical Staff, and has always worked closely with staff. We work very closely with our technical and administrative staff and informally consult with them on a wide range of issue.

As noted by the EEC, the Department has made concerted effort to ensure that students can have easy access for one-on-one feedback to staff. The Academic or Clinical Advisors provide overall guidance to the students assigned to them so that the students can improve in the attributes required throughout the curriculum. Additionally, Faculty members maintain consistent office hours and demonstrate a highly positive attitude towards students. In addition to the student support system via the Counseling Center provided by the University, the program of Medicine offers additional Academic Support with specifically assigned advisors throughout the pre-clinical and clinical training period. Specific student-advisor assignments for the School of Medicine are indicated in the Student Handbook. All new students are introduced to the School of Medicine curriculum, policy and activities during the Medical

Student Orientation, which takes place the week before classes start. Medical Student Orientation is an essential part of a successful transition to Medical School. Crossing the threshold of the Medical School, students are taking their initial steps into the profession. Medical Student Orientation is foundational to the student's success as a medical student at EUC and will provide them with information vital to their matriculation. The program sets the tone for their academic career and highlights expectations, as well as gives them the opportunity meet their fellow classmates. The Medical Student Orientation culminates with the "White Coat Ceremony", where students will receive their first white coat and take their first step towards the responsibility of becoming a physician by reciting an oath dedicating themselves and pledging integrity in the study and practice of medicine.

In addition to students, there are adequate policies and procedures for provision of feedback to Faculty regarding their academic performance and progress toward promotion. The Dean and the Chair conducts a periodic professional development review of each regular, full-time Faculty member. In addition, students evaluate Faculty using an anonymous online questionnaire.

EUCMS academic leadership has created clear documentation norms to make its governance clear. In addition to having a clear description of our governance structure, we have made concerted efforts to embrace and engage all Faculty, staff and students in the functions of Governance. The later was achieved with the introduction of a full range of committees, with defined membership, roles and responsibilities to enhance and monitor the function, activities and development of the School.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- **The administration clearly and adequately understands its task as serving students, teachers and researchers.**
- **It serves the University and the Department very well.**
- **It seems very flexible, in dealing with daily and long-term needs in an orderly and fast manner.**

We are grateful that the EEC acknowledges our efforts to provide an administrative structure that is in line with our mission, hence fully supporting and serving our students, Faculty and researchers. Moreover, the administrative staff competently supports all operations of the Department, ensuring that all academic matters are managed correctly and in tandem with the functions of the University. We are extremely pleased that the EEC recognizes the efforts of the administration to be agile, so as to be able to deal with both the everyday and long-term needs of the department, both effectively and quickly.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- **No recommendations**

  The EUCMS is extremely pleased that the EEC recognized our efforts for effective Administration of the Department. The excellence that all members of the Department have strived to obtain in the program is dependent upon accepting critical evaluation of our performance and acknowledging areas that need improvement. In this regard, we are grateful to the EEC for their candid discussions regarding our program, and the insightful comments and suggestions throughout their report.

4. Learning and Teaching

Sub-areas

4.1 Planning the programmes of study
4.2 Organisation of teaching

4.1 Planning the programmes of study

The Department strives for a very high quality of teaching and instruction. The programs in their entirety and also in detail make a very good impression. As mentioned above, the Department continuously monitors quality indicators of each program. Students evaluate instructors via an App and anonymous electronic questionnaire and vice versa students are monitored. Those indicators are used for benchmarking concerning teaching, resources, etc. Class attendance, Class size, average mark, dropout rate, graduate employment rate is continuously monitored

We are grateful the EEC acknowledges that we strive for the highest quality of teaching and instruction in the Department. The EUCMS 6 year curriculum underwent continuous development within a consultative framework informed by internal evaluation, invited external review and international best practices. The internal evaluation took place with meetings from the Program Committee (November 13, 2018; January 15, 2019; June 17, 2019), as well as review and discussions in Department and School Council Meetings (Dept. Council Minutes: 01/09/2014, 15/09/2014, 19/10/2016, 27/11/2018, 17/04/2019). Additionally, invited external evaluations (October 2016, May 2017, and April 2018) augmented the refinement of the curriculum, instructional/learning methods applied, as well as to ensure principles of equality in the deliverance of the curriculum. In addition, the Dean attended a Health Sciences Best Practices and On-Boarding meeting (Miami, Florida, June 14-16, 2017) during which 1) possible weakness or strengths in the current EUCMS undergraduate program were identified and/or discussed based on these learning experiences; 2) potential areas for future development and improvement based on international programs were presented; and 3) action plans for consideration were proposed.

Through two-revision cycles, one directed at the pre-clinical curriculum and the other at the clinical training program, the School designed a *competency-based integrated-spiral-design*

curriculum. Integration reflects courses that not only bring together the various basic disciplines, but also clinical, factual, experiential sources of information. The overall aim is to foster the understanding and performance of professional activities in medicine in our students at an early stage of their education. Enhancing the cognitive activities of the students is a critical element required to achieve the high level of integration envisioned in the curriculum. To this end, we focus on using active teaching modalities that enhance cognitive activities in students. The curriculum is fully integrated both horizontally (systems-based) and vertically (basic-clinical science). The students move through the three spirals of the curriculum, where learners revisit topics several times, but where the complexity of the material increases with each revisit.

All relevant portions of the curriculum are described in the *Student Handbook*, *Quality Assurance Guide* and *Clinical Training Manual*.

Overall Curriculum

As described above, the six-year curriculum at European University Cyprus is an *integrated-spiral-design curriculum* that is *competency-based*. Integration reflects courses that not only bring together the various basic disciplines, but also clinical, factual, experiential sources of information. The overall aim is to foster the understanding and performance of professional activities in medicine in our students at an early stage of their education. As such, integration of the curriculum can be viewed as a continuum, with discipline-based teaching at one end and full integration of disciplines at the other enhancing the cognitive activities of the students is a critical element required to achieve the high level of horizontal integration envisioned in this revised curriculum. To this end, we have focused on using active teaching modalities that enhance cognitive activities in our students. By this, the aim is to create a conceptual coherence between the various disciplines and allow our students to build an understanding of basic sciences to relevant clinical problems. The curriculum is fully integrated both horizontally (systems-based) and vertically (basic-clinical science). The students move through the three spirals of the curriculum, where learners revisit topics several times, but where the complexity of the material increases with each revisit. As such, new concepts are built on previous learning.

Foundations of Medicine is taught in two parts across two years. The first part is taught in modules that cover traditional synergies related to understanding the Structure and Function

of the human body from molecules to cells (e.g. cell biology, biochemistry, genetics), as well as medical information (epidemiology, biostatistics) in the first term and the basic structural components of the human body (anatomy, physiology, histology, embryology, biochemistry) in the second term. Students are given their first introduction to clinical practice in "Clinical Practicum". The second part of the Foundations is taught in modules that cover traditional synergies related to understanding the structure and function of the human body (anatomy, physiology, histology, embryology, biochemistry) that is organized in primary body systems (cardiovascular, pulmonary, renal reproductive and nervous). Instruction of basic clinical skills is promoted via the course and practicum in «Introduction to Clinical Skills», as well as using simulated scenarios.

Foundations of Clinical Practice, taught during the 3rd year, focuses on pathophysiology, formation of differential diagnoses, semiology, pathology and pharmacotherapy that is also organized in body systems over the course of the year. Basic clinical skills are further promoted via simulation.

The Clinical Medicine Core comprises the last three years of study. The Clinical Medicine Core, forms the final turn of curriculum spiral, with the translation of knowledge and skills into practice, during clinical clerkships. The *Clinical Medicine Core & Pre-Internship Training* is divided into two stages. In years 4 and 5 the students are exposed to all clinical sub-disciplines within the primary clinical pillars (internal medicine, surgery, neuroscience/mental health, child/maternal health, and family medicine/primary care) with lectures and 3-week clinical rotations (*Junior Clerkship Rotations*). In concurrence with the new Association of American Medical Colleges AAMC guidelines, which require simulation training in all residency programs, the School of Medicine adheres to a simulation-based portion within the theoretical hours of the clinical curriculum. This has been designed to ensure acquisition of core competencies, including key manual skills, cognitive skills, communication skills and integrated skills. The clinical training program has been carefully designed with parallel education blocks that are intercalated with the primary pillars defined by the School of Medicine to ensure that all students complete the same material at the end of the semester. The 6th year of the School of Medicine curriculum is devoted to clinical rotations (clerkships) in all disciplines. These *Senior Clerkship Rotations* take place alongside the *Junior Clerkship Rotations*. This type of parallel block rotations with teams that include Junior and Senior Clerkship Rotations assures more effective learning, competency acquisition and transition to internship preparation. The

Senior Clerkship Rotations, or Pre-Internship Training has been carefully designed to ensure that students will be able to function as independent physicians during their residency training. As such, the Senior Clerkship Rotation will act as a critical transition point, when the observational apprentice becomes an active and accountable clinical practitioner. The clinical training program and clerkships is outlined throughout the *Clinical Training Manual (CTM*).

Subjects such as medical ethics, preventive medicine, public health, patient safety, etc. span all years and are threaded throughout the basic modules and clinical clerkships.

Horizontal integration brings together the various disciplines (e.g. Anatomy, Histology, Embryology, Physiology, Biochemistry) for each module, whereas vertical integration is aimed at bringing together basic and clinical sciences, in order to break the traditional divide between preclinical and clinical studies.

Vertical integration is achieved by the early introduction to clinical skills and clinical thinking and reasoning. During the Foundations of Medicine phase, each module is closed with a session designed to reinforce the basic knowledge acquired and integrate that knowledge with its clinical significance.

EUCMS is well aware that medical knowledge has been expanding exponentially over the last three decades, with about 1.8 zetabytes of new clinical data being created annually, and by some estimates, the body of medical knowledge doubles about every 18 months and is projected to double every 3 months by 2020. As a result, medical educators are challenged to reform the medical curriculum with innovative ways that accommodate this increasing burden of medical information to ensure that students have the required knowledge and skills base necessary to function as qualified new clinicians. This reinforces the notion that the practicing physician must forever be a student of medicine and a life-long learner. Conceptual knowledge includes the development of efficient methods for the acquisition, interpretation and recording of patient information and a systematic approach to patient care. This provides a framework on which to arrange rapidly changing and increasingly detailed medical information.

An essential feature of the clinical training consists of in-depth contact with patients. Students take histories, examine the patient, propose diagnostic and therapeutic plans, record their findings, present cases, perform minor procedures under supervision, attend all scheduled lectures and conferences, participate in rounds with their peers and teachers, maintain a patient log and study extensively about their patients' diseases. In surgical departments,

attendance in the operating room is required. In special departments (e.g. prenatal and postpartum clinics, endoscopy units, etc.), attendance is mandatory; patients they are assigned to, must be followed through their different procedures.

A physician, nurse or other health care provider must be present in the room while students examine patients. This is especially true for examinations of intimate body areas. Student orders in the chart or electronic medical records must be authorized and countersigned by a physician. Minor procedures may be performed on patients after adequate instruction has been given and certification documented in the Student Logbook as permitted by hospital policy and governmental regulations. Students working in hospitals are protected by liability insurance, which is carried by EUC. Students must become familiar with the electronic medical record or patients' charts and know where to locate its individual components. Students are responsible for patient workups and might also write daily progress notes as stipulated by the EUC clerkship curriculum and hospital policy.

Students are expected to be on duty throughout the hospital workday, Monday through Friday. Evening, weekend, and holiday on-call schedules may be the same or less than those for the resident team to which the student is assigned, depending on the requirements of the EUC curriculum. Student duty hours must take into account the effects of fatigue and sleep deprivation on students' education. Medical students are not required to work longer hours in patient care than residents. Allowing for some modifications at different hospitals and for different cores, the average workday or week should consist of approximately 50% patient care activities, 20% conferences, lectures and/or preceptor sessions and about 30% academic time (academic time is used for students to prepare for case presentations, reports, etc.).

EUC has a formal administrative and academic structure for facilitating the clinical training of its medical students at its affiliated hospitals (Clinical Training Manual). The Dean, in collaboration with the Deputy Dean and Chair, oversees and is responsible for the Clinical Training (Clerkship) programs at EUC, School of Medicine. As such, they are not members of any clinical training committee. The School council appoints a seven-member Clinical Training Committee (CTC), who are all full-time Faculty and Chairs of the Clinical Divisions (see below) and the committee elects by majority a Chairman. The medical program at EUC is comprised of 7 primary Divisions (5 of which are Clinical Divisions), to which the courses and subjects are distributed. The Chairs of the Clinical Divisions (Internal Medicine, Surgery, Maternal & Child Health, Social Medicine/Public health/Primary Care, and Neuroscience/Mental Health/Sensory

Systems) are full-time senior Faculty and are responsible for the overall academic content and coordination of the courses taught in that Division. They oversee clinical program and rotations at each affiliated hospital and ensure equality of training for EUC students across all clinical training sites.

4.2 Organisation of teaching

The admission criteria are clearly stated and are based on academic performance and personality traits. Thus, the basic tenet of "can I respect somebody" (professional competence) and "can I trust somebody" (integrity, personal trustworthiness) are fully implemented already at admission.

We are pleased that EEC found our admission and student selection process effective. The admission policy serves to select candidate academically capable to matriculate, without regard to ethnic background, religion, sex, age or possible disability. Academic Reference Letters and a Personal Statement are used to help provide an insight on the commitment and motivation to study medicine. A predominant part of the evaluation of each candidate is the interview, which examines the intrinsic motivation, knowledge and values of each candidate to determine their suitability for admission to EUCMS and their ability to matriculate. The admission process and specific criteria are made available to potential candidates. The Admissions and Interview Committee periodically evaluates the admission policy in order to strengthen academic qualities and standards.

Our Admission policy is in line with our EUC Medical Curriculum, which is designed to also facilitate the development of primary *competencies* in our students, as defined by the Accreditation Council for Graduate Medical Education (ACGME). EUC is firmly committed to their competency-based curriculum. These competencies have been detailed in the EUC Clinical Training Manual (CTM). The Accreditation Council for Graduate Medical Education (ACGME) Core Competencies are:

1. Patient Care
2. Medical Knowledge
3. Practice Based Learning and Improvement
4. Systems Based Practice

5. Professionalism
6. Interpersonal Skills and Communication

Findings

- **The programs are well planned and published in a teaching manual.**

We would like to thank the EEC for their observation. As noted above, the EUCMS 6 year curriculum underwent continuous development within a consultative framework informed by internal evaluation, invited external review and international best practices. Through two-revision cycles, one directed at the pre-clinical curriculum and the other at the clinical training program, the School designed a *competency-based integrated-spiral-design curriculum*. The student activities and objectives of the program, courses and clerkships are disseminated to the Faculty, staff and students via several channels, such as ***Student Handbook*** and ***Clinical Training Manual.*** For students, these are also reviewed during New Student Orientation, and are made available on Moodle.

- **Medicine is taught in a patient-centered way, and the teaching is delivered in a student-centered way.**

We are extremely grateful that the EEC recognizes our efforts to embrace student-centered teaching. The overall aim is to foster the understanding and performance of professional activities in medicine in our students at an early stage of their education. Enhancing the cognitive activities of the students is a critical element required to achieve the high level of integration envisioned in the curriculum. To this end, we focus on using active teaching modalities that enhance cognitive activities in students. The curriculum is fully integrated both horizontally (systems-based) and vertically (basic-clinical science). The students move through the three spirals of the curriculum, where learners revisit topics several times, but where the complexity of the material increases with each revisit. The medical curriculum at EUC engages multiple *active and cooperative learning strategies*. *Innovated and web-based educational resources* have been tightly intercalated in the program at all levels. With the exception of brief introductory lectures, all other teaching methods applied in the medical curriculum entail active learning,

including collaborative learning, cooperative learning, problem-based learning, and self-directed learning, among other, as described in *Course Syllabi.* In addition, the EUCMS promotes a culturally inclusive teaching environment, aimed at developing culturally competent healthcare workers. New Faculty Orientation discusses the effects of cultural diversity on learning and teaching styles, which effect social interactions, peer cooperation, performance, skills, competition, etc. The aim is to promote a cultural inclusive classroom with content integration using examples from different cultures, equity pedagogy with inclusive language and models of address, as well as actively encouraging cultural tolerance.

As noted by the EEC, medicine is taught in a patient-centered manner, which is compatible with our mission, which indicates that our aim is to "educate medical students in accordance with the highest professional standards to train competent and caring physicians to practice patient-centered medicine of the highest standard." Overall, we believe that student satisfaction is the direct result of the student-centered collaborative programme of the EUCMS that creates a safe and highly productive environment both for staff and students.

- **The program exudes an atmosphere of professionalism.**

We are very honoured by this comment. We strive, as a Department, to achieve the highest professional standards.

- **The program uses entrustable professional activities (EPA), MiniCEX and other forms of teaching and assessment. Clear guidance and checklists have been developed to standardize practical transferal of competencies and skills.**

As noted by the EEC, the Department uses several frameworks, including competences, learning outcomes, WFME standards, ACGME Framework and EPAs with milestones in its educational program. The Clinical Competence Roadmap is through and harmonizes the relationships between the different competency frameworks. This takes into account the entrustable professional activities (EPAs) of the AAMC to guide the evolution of the students towards postgraduate training. In addition to check lists, the Department applies a range of evaluation tools, such as personal portfolio, miniCex and assessment are used to assess competencies in students.

- **The program uses a very vast array of methods, both traditional and modern, to provide the best quality of education to become a both trustable, dependable and knowledgeable Medical Doctor with broad possibilities of employability.**

We are pleased that the EEC acknowledges that the Department engages in a wide range of teaching methods that entail active learning, including collaborative learning, cooperative learning, problem-based learning, self-directed learning, among others. Active learning methodologies are applied not only to increase student investment, motivation and performance, but also to enhance knowledge retention. The medical curriculum at EUC engages multiple *active and cooperative learning strategies*. *Innovated and web-based educational resources* have been tightly intercalated in the program at all levels. With the exception of brief introductory lectures, all other teaching methods applied in the medical curriculum entail active learning, including collaborative learning, cooperative learning, problem-based learning, and self-directed learning, among other, as described in *Course Syllabi.*

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- **See above**

We are grateful that the strengths of the Department are equivalent to the findings of the EEC.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- **Keeping the teaching staff at hospitals to the same degree of excellence as within the Medical School, Department of Medicine, itself.**

In agreement with EEC's comment regarding maintaining equal excellence of teaching staff at hospitals compatible with that within the medicine, we have devised a formal administrative

and academic structure for facilitating clinical training of its medical students at its affiliated hospitals and clinics. These are established through formal agreements. The Clinical Training Manual and the Clinical Training Committee ensure optimal cooperation between all affiliated persons and sites with the School. EUCMS endeavors to communicate to the maximum extent with the Health Sector, both public and private through multiple processes, including the Advisory Board, Clinical Training Committee, membership on Governmental and/or Hospital committees, etc. The communication of EUCMS with the Health Sector is constant and bilateral, and it is primarily achieved through the clinical leads, as well as members and Chair of the Clinical Training Committee. EUCMS works with several affiliated teaching hospitals, in addition to the Larnaca General Hospital, which was assigned to EUCMS by the Ministry of Health. As such, EUCMS has MOUs to ensure clinical placements with private sector hospitals and clinics, as well as with Private Specialists/Consultants who provide clinical teaching as clinical instructors. EUCMS carefully monitors the performance at all sites.

In this regards, the Department holds regular train-the-trainer sessions. The content of clinical training is optimized by simulating a clinical training session, providing tips on how to organize a clinical training day and keep in line with the learning objectives, how to provide student feedback and to improve the content of their training. A guide for the logbook completion process has been made to assist clinical instructors. In addition, the members of the Clinical training committee (e.g. the hospital academic liaisons) regularly evaluate the content of the logbooks, as well as perform summative clinical assessments (e.g. by mini-CEX assessments) in collaboration with the clinical instructors. Additionally, through a collaborative effort of the Clinical Training Committee, Simulation Committee and Faculty, we have devised a standardized patient program, which includes training of Faculty, staff and students and which is currently in process. It should be noted that according to all Memorandums of collaboration with clinical sites, clinical instructors receive financial compensation for student training, as well as other incentives such as discounts for EUC programs, library access and participation in joint activities, including research projects, seminars and on- campus educational activities.

- **Maintaining consistency of all of that.**

We agree with the EEC that maintaining excellence of clinical training is of paramount importance. We strive to improve the quality of the services we offer to our students with a

major goal improving patient safety. We have a solid range of major clinical training sites that collaborate with EUC School of Medicine. The hospitals amount to over 1000 beds and more than 25 clinical specialties. In addition to these, the School of Medicine collaborates with small primary care and special centers (e.g. diagnostic centers).

Public

- Larnaca General Hospital (including Larnaca Old Hospital)
- Ammochostos General Hospital
- Nicosia General Hospital
- Archbishop Makarios III General Hospital (Nicosia)

Private

- Agios Therisos diagnostic center (Nicosia)
- American Gastrenterology center (Nicosia)
- American Medical Center (Nicosia)
- Apollonion private Hospital (Nicosia)
- Aretaieion private Hospital (Nicosia)
- Arodafnousa Hospice Center (Nicosia)
- Cyprus Institute of Neurology and Genetics (Nicosia)
- German Oncology Center (Limassol)
- Hippocrateon private Hospital (Nicosia)
- Ophthalmos center (Nicosia)
- Theocharides laboratory (Nicosia)

External Sites

- IASO Children's Hospital (Athens)
- IASO Maternity and Gynecological Clinic (Athens)
- Hygeia private hospital (Athens)

- Hadassah Medical Center (Israel)

In addition to rotations in hospitals and clinics, clinical training of EUC Medical Students is also complemented by training in the skills laboratories, simulators, and standardized patient encounter rooms, available at the EUC School of Medicine Campus. Among the above hospitals, EUC School of Medicine has an exclusive training agreement with American Medical Center (58 beds) and German Oncology Center (planned expansion to 80 beds), Larnaca General Hospital (181 beds with planned expansion to nearly 300 beds by end of 2019). These exclusive clinical settings, with a current capacity of more than 320 beds and a planned expansion over 500 beds, as well as the availability of other primary, secondary, tertiary and special centers, adequately cover the clinical training needs of the EUC medical students.

According to the Clinical Training Organization plan, each major hospital has at least one designated Hospital Coordinator/Clinical Liaison, who is an employee of the hospital, is the liaison with the School of Medicine and is responsible for ensuring that the EUC clinical training is delivered as planned. Their principal role is to ensure quality and conformity with the EUC guidelines as described in the CTM, including overseeing rotation schedules and determining the scope of student activities within the hospital/clinic. Each Hospital coordinator communicates closely with the Clinical Training Committee through the clinical training assistants and appointed EUC Faculty who consist the Academic Clinical Liaisons, and are also designated for each clinical rotation site.

According to the Clinical Training Manual, the basic function of the Clinical Training Committee includes the following (see Section 2.7 for details):

- Oversees planning and appropriate coordination of the clinical training rotations
- Assists the Dean in recruiting and assigning academic and clinical Faculty
- Are the liaison between the clinical training sites and the Faculty responsible for academic program and course content
- Ensures appropriate training of clinical Faculty
- Ensures an environment of safe collaboration between the School and affiliated healthcare sites

- Ensures optimal clinical training, including completion of learning objectives, accurate and objective student evaluation, as well as appropriate documentation (e.g. logbooks).

The Clinical Instructors are directly responsible for the actual bedside education of the medical students and for considering the student's progress against learning objectives set by the EUC clinical curriculum. Students shadow their clinical instructors, to maximize their clinical exposure, while being appropriately monitored at all times. Furthermore, the clinical instructor has a pivotal role in student assessment. In order to ensure that clinical instructors are appropriately informed and aligned with the learning objectives and assessment methods of the EUC School of medicine, following their selection, EUC organizes train-the-trainer programs on EUC campus, as well as educational and feedback meetings in each hospital. Clinical training is complemented by the Chairs and co-Chairs of the five Clinical Divisions (Internal Medicine, Surgery, Child & Maternal Health, Social Medicine, Neuroscience & Sensory Systems) who are mainly responsible for the overall academic content and coordination of the courses taught in their division. In addition, the Clinical Training Advisors, are full-time Faculty who are assigned individually for each student, keep contact with the students for the whole duration of their clinical training, ensure that all requirements for entry into clinical training are correct and complete, and review evaluations, grades and graduation requirements.

5. Teaching Staff

The strongest and most developed part of the Medical School, Department of Medicine so far is teaching, both in content and in its means used. They use all potential old and new teaching methods, technological advancements and even distant teaching possibilities. The methods add up to an excellent average course participation in this personalized environment, although participation in lectures is not mandatory in contrast to practices and seminars.

Also, write the following:- Number of teaching staff working full-time and having exclusive work- Number of special teaching staff working full-time and having exclusive work - Number of visiting Professors- Number of special scientists on lease services

- **Number of teaching staff working full-time 33, of which 23 full-time Faculty**
- **Number of special teaching staff 10**
- **Number of visiting Professors 45**
- **Number of special scientists on lease services 223**

Teaching

We would like to thank the EEC for their comment regarding the strength of our teaching program. The multi-modal teaching format applied at ECUMS, helps bridge the gap between theory and practice, as critical appraisal skills are developed in PBL activities, case studies, computer assisted learning, skills training, clinical association lectures, etc. Simulation training helps combine current research and innovation in modern medicine, to best medical practice based on the current evidence. TBL with group discussions, direct participation in skills training, online resources in CAL, among other teaching modalities, which are threaded throughout the curriculum, facilitate evidence-based medicine. The EUCMS was shifted its teaching paradigm from the traditional model of lecturing on content, giving more emphasis on cognition, tangible and measurable learning outcomes and higher level of creative critical and analytical thinking based on the current evidence. This is introduced from the first years of the undergraduate students' studies and carries throughout the 3 phases of the medical curriculum. In phase 1, all students are asked to critically analyze papers of basic sciences and they present these in poster and oral presentations. This ensures a strong nexus between

the research activities of the School and School's teaching mission. Similar case discussion and debates occur in medical psychology, legal medicine and ethics, hence ensuring a balance between opportunities for examining research methods, not only in the biomedical sciences, but also the social and behavioral sciences.

Medical students are exposed to simulation, where they are asked to transform difficult to comprehend concepts into tangible clinical manifestations of signs and symptoms. They actively search the various resources to analyze the clinical problem given and they are exposed for the first time in their medical carriers to clinical reasoning and active correlation of the concepts of disciplines such as anatomy, histology and physiology into real-life clinical scenarios. These scenarios increase in complexity, as the students get more and more familiar with more concepts of the human body in health and disease. During these first years, the students work in predetermined teams and as a result one of the main cornerstones of scientific methods, which is co-operative learning is being taught and imbued into the medical students. During their simulation time, the students develop critical social skills pertaining to physician-patient communication. As a team, the students are accountable for their performance for the first 2 parts of the EUCMS medical curriculum.

The underlying concepts imbuing the scientific method, such as the analytical and critical thinking (including clinical reasoning), active medical research and extensive literature reviews, the practice of evidence based medicine and the use of innovative clinical research and the fact that students are never experts, but life-long learners are ascertained throughout all phases of the EUCMS curriculum. These elements are instilled into the students from year 1 of their medical studies, where their instructors ask them to actively review the literature to arrive with answers to specific questions; a process which increase in complexity every time a topic is revisited in their basic medical education.

The learning environment at the Medical School provides diverse physical locations and contexts to facilitate student learning. These learning environments have both a direct and indirect influence on student learning, including their engagement in what is being taught, their motivation to learn, and their sense of well-being, belonging, and personal safety.

Teaching Staff

The Department has very passionate teaching staff that work with an excellent team spirit that is fully appreciated by the students. We provide ample opportunities for Faculty members to participate in professional development to enhance their teaching, skills and knowledge for career advancement. The leadership encourages opportunities for Faculty development, such as the Faculty Professional Development Program, and the Train the Trainers Program. These are aimed to enhance the teaching, evaluation and assessment skills of the Faculty. The Department manages a specific professional development funding for Faculty members to participate in conferences through national or international meetings of their professional societies. The Department distributes a set budget each year for each Faculty member to attend professional development events. Faculty development programming is communicated to the Faculty via moodle, emails and posts on the website.

The Department strives to develop a broad perspective that continuously searches for and tries to address all the aspects that impact Faculty success; second, systematic and rigorous attention given to each of the steps in the Faculty development process. EUCMS recognizes that Faculty development is not a momentarily action, which can be achieved through formal trainings alone. Faculty members are also life-long learners and as a result, development of the Faculty happens at informal meetings with Senior Faculty and active participation in various medical education forums and Congresses. The EUCMS is extremely supportive in providing access to its Faculty members to continuous education opportunities either courses, congresses, etc. Novice Faculty members are formally trained in the development courses shown in the report, but they are also actively monitored by a senior member of the Faculty. Through this mentoring system, the new members of the Faculty improve their teaching skills under close supervision. EUCMS involves junior Faculty in the various committees. The participation in these committees exposes the new appointed Faculty to the other aspect of their duties.

Several Scholars have been invited to teach students and/or give lectures on the premises of the EUCMS. These are distinguished scholars and several are Nobel Prize winners, world-renown in their field. Some of the invited distinguished lecturers have been appointed as Honorary or Adjunct Professors, with the aim of introducing on a regular basis their research expertise to seminars and various courses.

The School has in place a sufficient cohort of Faculty members with the qualifications required to effectively deliver the medical curriculum, to meet the other needs and fulfill the other missions of the medical School. Each full-time Faculty member has an academic profile, which describes their teaching, research and service activities posted on the University Website.

Over the course of the Schools development, the number of full-time and part time Faculty has increased significantly. With the current full-time taught student body, the student: instructor ratio is 1: 3.2. The student: instructor ratio is significantly lower when clinical instructors at the hospitals are considered. In the clinical years of training (years 4-6) the inclusion of clinical instructors facilitates the small groups required for bedside teaching.

While with the current student body, the present ratio of teaching Faculty to students is 1: 3.2, by maintaining the current student intake levels, but with the continued recruitment policy for new Faculty of the School, the capacity for appropriate supervision of the students further increases. This is important, as students tend to spend the vast majority of the preclinical teaching contact time in small group teaching sessions (15-20 students, 3-4 teams) in skills laboratory sessions. The majority of clinical teaching contact time is spent in smaller rotation groups of 3 – 6 students.

At present, the School has 120 clinical instructors who train 4th – 6th year students. Student training is distributed across the hospitals in small groups of 3-6, depending upon the rotation and subject. The number of students is set by each department in each hospital for each specific clinical rotation based on the constraints of: facilities and number of clinical instructors. The School works closely with the designated Hospital Coordinator to design the clinical rotation program.

The composition of the academic personnel is adequately balanced between medical and non-medical teaching staff, particularly as several medically qualified Faculty focus on basic science instruction (for example histology). At present, only 20% of the full-time Faculty are women and 27% of the entire Faculty are women.

The EUC Charter clearly defines the policies for Faculty selection and appointment. Recognizing the University's commitment to excellence in teaching and research and aiming at ensuring the recruitment, selection, and appointment of Faculty members with high potential and ability, as well as at providing support for the continued development of their skills as good teachers and researchers, the Senate adopts well defined Faculty Selection *Procedures.*

The medical program at EUC is comprised of 7 primary Divisions (5 of which are Clinical Divisions), to which the courses and subjects are distributed. In order to facilitate the effective running of the clinical training curriculum, one senior Faculty member to serve as Chair of each respective Clinical Divisions (Internal Medicine, Surgery, Child & Maternal Health, Social Medicine/Public health/Primary Care, and Neuroscience/Mental Health/Sensory Systems) is required before the initiation of clinical training. Division Chairs are full-time senior Faculty (preferable Associate Professor or Professor) and are responsible for the overall academic content and coordination of the courses taught in that Division. They oversee clinical program and rotations at each affiliated hospital and ensure equality of training for EUC students across all clinical training sites.

The level of scholarly productivity of the Faculty is outstanding. Participation in scholarship is expected of all Faculty members and is judged in part by quantitative measures including publications, citations, h-index, senior authorship, and reputation among the leaders of their respective fields. Senior Faculty have achieved and maintained a national and international reputation for their scholarship. Faculty members are expected to participate actively in scientific for with presentations at national and international meetings.

A demonstrable contribution to teaching is expected of all Faculty. Each Faculty member receives details as to their academic responsibilities by Administration of the School. The Administration, as well as the Structure and Function and Clinical Training Committees periodically examine these responsibilities. In addition, teaching quality is monitored by student evaluations. The Office of the Vice-Rector of Academic affairs along with a Senate Subcommittee has created the questionnaire. The questionnaire assesses all learning aspects of the student including both the instructor and the course as such. The instructor is sent a link, which diverts students to the specific questionnaire. The links are individual for each instructor and courses and are created by the MIT department. The link is being sent to the instructor 3 weeks before the end of the 13-week period of instruction. The Instructor projects the link for the students to see and then leaves the room. All students who participate in the course complete the questionnaire anonymously. The allowed time for completion of the questionnaire is approximately 20 minutes. The link remains active only for the first one and a half hour of the evaluation period. Then the data are collected by MIT and a summary of the findings is sent to the instructors themselves, the Chair and the Dean.

All academic staff are expected to maintain an academic workload that incorporates teaching, research and community contribution. Maintenance of research activity is key to knowledge renewal and contributes heavily to the evidence-based practice and principles that cut across the School of Medicine program. The School's increasing activity in Medical Education Research is evidenced by increasing research output and by hosting and co-organizing with the International Network for Health Workforce Education the 2nd International Congress of Health Workforce Education and Research (May 2019). This meeting is dedicated to international medical educators, research and policy makers around the world with the theme "Future Education in Healthcare".

Feedback to Faculty: There are adequate policies and procedures for provision of feedback to Faculty regarding their academic performance and progress toward promotion. The Dean and the Chair conducts a periodic professional development review of each regular, full-time Faculty member. In addition, students evaluate Faculty and their overall learning experience using an anonymous online questionnaire as described in the previous paragraph.

Faculty Engagement & Retention: Understanding the strategic role played by Faculty satisfaction is vital to the success of an institution. One of the crucial missions of the Founding Chair will be to understand that engaging and retaining valuable Faculty members helps create a productive and positive work environment, and save in turnover costs. The medical School will suffer losses in money, time and effectiveness, if it fails to retain its Faculty. Engaged Faculty are more interested in their work, invest in the success of their institution, raise the level of organization, pursue longer careers, foster greater student/patient satisfaction and give more than is expected of them in their workplace.

Recruitment strategy: During this period of documented needs for medical services throughout the European Union, the EUC School of Medicine has been able to attract high-quality innovative Faculty members / clinicians who desire to practice, teach and conduct research in a high-caliber academic medical education environment.

The strategy for building the Faculty ranks includes the early recruitment of senior core Faculty members who also serve as senior research leader Faculty. These are professor or associate professor-level Faculty who will be expected to ensure the smooth running of the medical curriculum and rapidly advance the medical School's research vision. Throughout each

educational cycle, full-time Faculty and scientific collaborators are recruited to support basic and clinical teaching aspects of the six-year program.

Recruitment of full-time academic Faculty has been staged over a period of time. For the full-time Faculty, the aim has been to build a team that will potentially work together for many years. In developing and composing the team, an effort will be made to recruit individuals at different stages in their careers, to avoid the risk of having a core team that is primarily junior in experience. Currently, there is a healthy mix of experienced and younger Faculty members that ensures a balance of time-tested wisdom of the senior Faculty and new ideas from the junior Faculty.

Faculty members are selected based on experience and qualifications from academic, educational, research and clinical work. The profile of the Academic staff is of the highest quality and each member possesses a different area of expertise, forming teaching teams, which teach parts of the preclinical and the clinical curriculum.

Findings

- **Formally all indicators of quality are met. However, without specific inside knowledge it is virtually impossible to know, whether everything meets up with the standards claimed to be fulfilled. Nevertheless, we had a good impression about the program.**

  We appreciate the EEC's good impression about our program. The Department has all documentation regarding quality standards of the program readily available and transparent.

- **Outside staff of teaching for clinical units in hospitals: We do not have detailed information on the quality of clinical teaching in the hospitals, which in other settings is very often an area of gross variance.**

  We agree that there was not sufficient time to organize outside visits. These were performed, however, with the WFME External Evaluation Committee in Dece,ber 2019, who observed both preclinical and clinical years in training. Their findings will be made available and transparent through the Agency's website.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- **All nominal parameters are met.**

  The Department tries to maintain the highest standards in the quality of the teaching.

- **Educational portfolio and follow-up for each individual student**

  We appreciate the EEC's comment. The portfolio was a new addition into the EUCMS and we are working hard to implement a comprehensive portfolio throughout our years. We have welcomed the addition of Portfolios and Personal Development Plans for our students. With the inclusion of the Portfolio in our new cohort, we can now include systematic reflection, as well as regular reflection to all years. Additionally, this will allow us to effectively monitor and cyclically scale up its implementation with progressive student cohorts. The contents were selected to facilitate the personal portfolio to also serve as an effective personal development plan, which will be kept and monitored by students with their academic and clinical advisors. Ultimately, the aim is to promote guided reflection and feedback and enhance performance.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- **Teachers in hospitals and primary care need to be closely monitored, and hospitals need to share the responsibility in delivering high quality teaching.**

  EUC has a formal administrative and academic structure for facilitating the clinical training of its medical students at its affiliated hospitals (Clinical Training Manual). The Dean, in collaboration with the Deputy Dean and Chair, oversees and is responsible for the Clinical Training (Clerkship) programs at EUC, School of Medicine. As such, they are not members of any clinical training committee. The School Council appoints a seven-member Clinical Training Committee (CTC), who are all full-time Faculty and Chairs of the Clinical Divisions and the Committee elects by majority a Chairman. The medical program at EUC is comprised of 7 primary Divisions (5 of which are Clinical Divisions), to which the courses and subjects are distributed. The Chairs of the Clinical Divisions (Internal Medicine, Surgery, Maternal & Child Health, Social Medicine/Public health/Primary Care, and Neuroscience/Mental Health/Sensory Systems) are full-time senior Faculty and are responsible for the overall academic content and coordination of the courses taught in that Division. They oversee clinical program and rotations at each affiliated hospital and ensure equality of training for EUC students across all clinical

training sites.

The Department has attempted to devise adequate policies and procedures for provision of feedback to clinical Faculty and clinical instructors regarding their academic performance and progress toward promotion. The Dean and the Chair conducts a periodic professional development review of each full-time Faculty member. In addition, students evaluate Faculty using an anonymous online questionnaire.

At the end of each clinical training period, student provide the School with a confidential feedback form. This feedback form aims to highlight the strengths of the clinical training courses and to show areas in need of improvement. Based on student feedback, appropriate changes and modification of the clinical rotations can be made, as regards to clinical sites and clinical instructor training and enrollment. In addition, students regularly consult with their Clinical Academic Advisors for issues that appear during their clinical training routine and other academic matters (e.g. performance). At the end of each clinical year, Student Confidence in performing various practical and clinical skills in different levels of their studies is also assessed by using a brief questionnaire: *Understanding student confidence in performing practical and clinical skills.* Anonymous questionnaire prepared by the clinical training coordinators of the School of Medicine of EUC.

- **The European University of Cyprus, Department of Medicine, should try to further evolve and enforce the system of teaching outside its own jurisdiction. It is difficult to think how the Department of Medicine can do that, as they do not have enforceable measures to systematically deal with non-performers. Perhaps contracts with hospitals can be set up that connects financial promotion within the hospital to performance in teaching.**

As an international academic entity, European University Cyprus School of Medicine encourages and promotes agreements with international hospitals and research institutions of the highest caliber for EUC student summer externships. The externship experience promotes the idea of employability and allows students to gain experience in environments and countries that they wish or expect to work in the future. The externship program is also an opportunity to create and strengthen relations between EUC Faculty and international clinical/research centers.

Many of the Student Summer Externships offered by EUC are at internationally renowned

clinical and research centers (e.g. Johns Hopkins University, Oxford, etc.). EUC medical students have the opportunity to participate in summer externships in prestigious highly ranked institutions all over the world for additional clinical and research training. The student experiences at these sites greatly enrich the EUC student by providing them the opportunity to learn in a wide variety of environments. To date, 125 students have participated in the EUCMS Summer Externship Program.

At present, EUC has collaborations with 9 major hospitals throughout Cyprus including Larnaca General Hospital, Ammochostos General Hospital, Archbishop Makarios General Hospital, American Medical Center, Apollonio Hospital, Aretaieo Hospital, Hippocrateon Hospital, Cyprus Institute of Neurology & Genetics, German Oncology Center, and Nicosia General Hospital. These hospitals alone provide over 1000 beds and more than 25 specialties. In addition to these, the School of Medicine collaborates with small primary care and special centers (e.g. diagnostic centers).

However, the School of Medicine also has agreements (Memoranda of Understanding) with major hospitals outside of Cyprus, including IASO General Hospital and Hygeia in Athens, as well as Hadassah Medical Center in Israel. IASO Maternity and Obstetrics Hospital has a capacity of 486 beds. Hygeia Hospital operates 440 beds, 16 operating theaters, has more than 1,200 highly trained nursing and administrative staff and 700 associated physicians of 50 different specialties. Hadassah University Hospital has 1,000 beds, 31 operating theaters, nine intensive care units, 850 physicians, 1,940 nurses and 1,020 paramedical and support staff. The intention of these agreements is to facilitate those students who wish to carry out specific clinical rotations at these centers.

As such, students have adequate patient access to cover the disciplines within each educational pillar, specifically; *Internal Medicine I*: cardiology, respiratory medicine, nephrology; *Surgery I*: general Surgery & anesthesiology; *Internal Medicine II*: hematology, oncology, gastrointestinal, internal medicine and endocrinology; *Surgery II*: orthopedics, general surgery, emergency department, intensive care; *Neuroscience/Mental Health I*: neurology and neurosurgery; *Maternal/Child Health I*: obstetrics, gynecology; *Neuroscience/Mental Health II*: psychiatry, ophthalmology, otorhinolaryngology; *Maternal/Child Health II*: pediatrics; *Family Medicine/Primary Care*.

6. Research

We got the impression that the initial endeavors of the Department has been to establish a very strong teaching curriculum and that research comes next. We did not have the impression of a very strong current research record at the Department, although staff have published. Furthermore, we did not have the feeling of well-designed research focuses that are competitive at an international level. Correspondingly, funding is still weak. However, we also got the impression that the leadership of the University, Medical School and Department are slowly trying to achieve to do this better, after having set up corresponding infrastructures and rules and in an effort to recruit further research skills. Although the leadership spoke about sufficient funds, we are not convinced that this is the case for achieving an international research profile.

As noted previously, research enhanced learning and teaching is a critical component of the medical curriculum, where research plays a key role in the students' learning and skills development, and encompasses basic biomedical, clinical, behavioral and social sciences research. The research priorities include:

- Identify and invest in areas of research strength that make best use of the School of Medicine resources to advance human health and well-being
- Advance the School of Medicine's capacity in translational research
- Promote research excellence through effective organizational systems and infrastructure
- Enhance training, career development and mentoring opportunities for the next generation of biomedical researchers
- Promote, nurture and support a professional rewarding culture for researchers at MedIC
- Increase awareness, appreciation and understanding of the valued of research at MedIC to both internal and external stakeholders and the public

Both Faculty and students have access to basic and clinical research facilities provided at the Medical School and collaborating centers. A fully equipped bench is available in the wet labs, as well as equipment for modern, molecular biology, biochemical and genetic studies (see below). Faculty and students also have access to other research resources at the American Medical Center and the German Oncology Center. All sites facilitate basic research projects, and translational clinical studies.

In order to promote research among its Faculty, the MedIC has produced an inventory of research interests and research achievements of its Faculty. The goal is for the future research policy of EUCMS to include projects and research projects that evolve around these research interests, in order to further promote the activity and output of its Faculty.

In an effort to increase our international research profile and funding, the Department of Medicine has partnered with the International Network for Health Workforce Education (INHWE), which opens the Department to various EU funding opportunities, such as ERASMUS+. At present we are submitting a consortium project on competencies for PhD supervision.

Findings

- **Research so far has been based on the experience and network of individual staff members, and not of a structured research strategy that focuses on networkable and innovative research content.**

In addition to a specific Research Strategic Plan, the Department has also indicated Research as one of the three primary pillars of its overall Strategic Plan. (These were provided in the folders made available to the EEC.)

- **Development of research seems to become a main focus of the Department after the first phase of setting up the teaching of Medicine.**

We agree with the EEC that after our initial focus on establishing our educational program, research has now become a primary focus for our development. As such, one of the primary pillars in our Strategic Plan focuses on Research. However, across the 6 years of the Schools existence there has been a notable increase in the number of PubMed publications by the Faculty. In addition, we have had the opportunity to recruit Faculty with both educational and research experience from other Medical Schools, including the National and Kapodistrian University of Athens, University of Chicago, University of Ioannina, UCL, University of Crete, Perelman Medical School, University of Pennsylvania, and University of Strasburg, as well as energetic and committed junior Faculty. Collectively, the primary research areas supported by

our Faculty and staff are Cancer, Neurosciences, Infectious Diseases and Translational Research. None-the-less, research remains in an early stage of development at the School. As such, one of the primary pillars in our Strategic Plan focuses on Research.

In order to enhance opportunities for research among both Faculty and students, and to incorporate components of research and scientific methodology in medical sciences throughout the 6-year medical program, EUCMS has implemented the following changes:

- Research is a distinct pillar in the School's Development Strategy Plan
- The School has refocused its strategy in staff recruitment plan to attract expert personnel in research
- An active Research Committee comprising of Faculty, staff, etc. has been created
- One of the acting fronts of the School mentoring committee is research promotion for Faculty, staff and students (please see Section 4, Students, Findings Response #11)
- We offer an elective course for Years 2 and 3 on Medical Academic Skills
- We offer a Year 3 course on Research Methods
- A mandatory MD thesis during Year 6 is part of the submitted curriculum
- The MD thesis committee provides feedback, guidance and monitors appropriate collaboration between students and thesis supervisors
- A dedicated session on research for students has been included for the student annual CaMESM meeting
- Research incentives through teaching hour reduction (THR) have been introduced by the University.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- **Some interesting projects**

We are grateful to the EEC's observation that we are involved in some interesting projects, which were listed above.

- **Willingness to work this area up**

As noted above, we agree with the EEC that after our initial focus on establishing our educational program, research has now become a primary focus for our development. As such, one of the primary pillars in our Strategic Plan focuses on Research.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- **Lack of Faculty and funds for research**

The Department allocates funds every year for each Faculty member for their professional development. This includes dedicated personal funds for research, publications, as well as to attend scientific meetings. In addition, as an incentive for research, the University rewards members of the teaching staff who excel in research by awarding them teaching hours reduction (THR). With a recent decision of the University Senate, this will be provided to newly recruited Faculty members, as well, to enhance their initial research efforts. We have recently opened a new post for an senior expert in Research to augment our faculty dedicated to research. In addition, we have partnered with the International Network for Health Workforce Education, in an effort to augment our access to international funding, such as ERASMUS+ funding for which we are presently submitting a joint project.

- **Recommendation: Create a first "Innovation Hub" that profits from areas that the University is already strong in, perhaps an interdisciplinary one or one that interacts with specific main industries or professional colleges in Cyprus. See evaluation PhD program Public Health.**

We are in total agreement with EEC's suggestion. In this regards, we have recently founded the Medicine Innovation Center (MedIC), which aims to serve not only as an innovation hub, but a center of excellence. As a regional research platform in biomedicine, targeting not only the region of Cyprus, but also an international level with a vision of interdisciplinary work.

Both Faculty and students have access to basic and clinical research facilities provided at the Medical School and collaborating centers. A fully equipped bench is available in the wet labs, as well as equipment for modern, molecular biology, biochemical and genetic studies (see below). Faculty and students also have access to other research resources at the American Medical Center and the German Oncology Center. All sites facilitate basic research projects, and translational clinical studies.

In order to promote research among its Faculty, the MedIC has produced an inventory of research interests and research achievements of its Faculty. The goal is for the future research policy of EUCMS to include projects and research projects that evolve around these research interests, in order to further promote the activity and output of its Faculty.

7. Resources

Funds for excellent teaching in all dimensions, but not for fully competitive international research, seem to be covered.

We would like to thank the EEC for recognizing that our funds for teaching facilities and resources are excellent. As noted previously, we agree with the EEC that after our initial focus on establishing our educational program, research has now become a primary focus for our development. As such, one of the primary pillars in our Strategic Plan focuses on Research. However, across the 6 years of the Schools existence there has been a notable increase in the number of PubMed publications by the Faculty. In addition, we have had the opportunity to recruit Faculty with both educational and research experience from other Medical Schools, including the National and Kapodistrian University of Athens, University of Chicago, University of Ioannina, UCL, University of Crete, Perelman Medical School, University of Pennsylvania, and University of Strasburg, as well as energetic and committed junior Faculty. Collectively, the primary research areas supported by our Faculty and staff are Cancer, Neurosciences, Infectious Diseases and Translational Research. None-the-less, research remains in an early stage of development at the School. As such, one of the primary pillars in our Strategic Plan focuses on Research.

In our effort for augmenting our international research, we have recently finished a new basic science research laboratory. As noted previously, the recently founded EUC School of Medicine Innovation Center (MedIC), in collaboration with distinguished scholars from Cyprus and abroad aims to serve as the regional research platform in biomedicine, targeting not only the region of Cyprus, but also an international level. With an emphasis on interdisciplinary approaches, EUC is has advanced its research vision.

As described above, the new research lab that Medical School is equipped with interactive work surfaces sustaining many fields including Microbiology, Cell Biology and Biochemistry. The dedicated research lab is integrating all of the above and gives the opportunity for hands-on research to both undergraduate and postgraduate students. The aim of MedIC is to become globally recognized for excellence in scientific discovery, collaboration and the rapid translation of new knowledge into practice than improve human health.

The Department allocates funds every year for each Faculty member for their professional development. This includes dedicated personal funds for research, publications, as well as to attend scientific meetings. In addition, as an incentive for research, the University rewards members of the teaching staff who excel in research by awarding them teaching hours reduction (THR). With a recent decision of the University Senate, this will be provided to newly recruited Faculty members, as well, to enhance their initial research efforts.

With the recent COVID19 crisis, one of the Department's research strengths has become more apparent. The Department, despite its small size, has three notable experts in Infectious Disease Prevention and Control. Not only is this apparent in the high-level public service that they are now providing, but there has been a rapid influx of training and research grants to support current efforts. This includes funding for an Infection Control and Outbreak Preparedness Simulation Training Program, among others. Also, faculty and staff are working with data registry collection for COVID19 cases.

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

- **Funds for excellent teaching in all dimensions available, but not for fully competitive international research**

  Please see the response above.

- **First steps are taken.**

  We are pleased that the EEC recognizes our initial efforts to increase our funds for competitive research. In our effort for augmenting our international research, we have recently finished a new basic science research laboratory. As noted previously, the recently founded EUC School of Medicine Innovation Center (MedIC), in collaboration with distinguished scholars from Cyprus and abroad aims to serve as the regional research platform in biomedicine, targeting not only the region of Cyprus, but also an international level. With an emphasis on interdisciplinary approaches, EUC is has advanced its research vision.

  Among our first steps are projects, such as those listed below:

- ESFRI projects/Landamarks (Directorate General for European Programmes). Title: EU Open Screen- European Research Infrastructure of Open Screen Platforms for Chemical Biology (AS)
- ESFRI projects/Landamarks (Directorate General for European Programmes Title: CESSDA-Consortium of European Social Sciences Data Archives (EN)
- Platform for Biosciense and Human Health in Cyprus: Enabling Synchrotron Analyses of Modern and Ancient Human Tissues (BEST Platform). Submitted with EUC as a Partner (EN)
- INFRASTRUCTURES/1216/0009 – BioMERA-platform. The Submitted Proposal has passed the First Stage of Evaluation and selected for the second stage of Evaluation. Submitted with EUC as a Partner
- GENDER-NET Plus ERA-NET Cofund Digital registration: Neurodegenerative Cohort Cyprus/Athens AND Response to stress cohort EU /CING as Partner (IP, AS EJ) Total share 80,000 24 months
- The Research Promotion Foundation Programmes For Research, Technological Development And Innovation “Restart 2016 – 2020” I Nternational Collaborations – Dual Targeting (Cyprus – United Arab Emirates)
- Title: Characterization of the Phyto-compound Annonacin as an Anti-Cancer Agents: Novel activity as inhibitor’s of SERCA and Na+/K+-ATPase Pumps
- EUC as coordinator (AS and IP) 100,000 24 months
- The Research Promotion Foundation Programmes For Research, Technological Development And Innovation “Restart 2016 – 2020” I Nternational Collaborations – Dual Targeting (Cyprus – USA)
- Title: Relationship Between Infection with Human Adenovirus-36 (Adv36) and the Etiologies of Obesity and Obesity-related Breast Cancer
- EUC as coordinator (IP AS)) 100,000 24 months
- 350 Merck Research Grants application
- Title: Investigating the role of Tripterygium Wilfordii Hook F and its Phyto-compounds as Anti-cancer Agents
- EUC PI (AS) 350,000/a for 3 year
- EUC as partner (CT) in a proposal for Transnational network for antimicrobial resistance and One Health: building interdisciplinary virtual research institute - Eighth Joint Transnational Call For Networks Within The Joint Programming Initiative On Antimicrobial Resistance:

50,000 euros, 12 months.

- EUC as Secondary Proposer (GP, CT) in COST Network "Towards One Health: an interdisciplinary approach to bio-social antimicrobial resistance ecologies".

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- **Well set up teaching of Medicine, having gone through one complete cycle.**

We are grateful the EEC acknowledges that we strive for the highest quality of teaching and instruction in the Department through its first cycle. The EUCMS 6 year curriculum underwent continuous development within a consultative framework informed by internal evaluation, invited external review and international best practices. The internal evaluation took place with meetings from the Program Committee, as well as review and discussions in Department and School Council Meetings. Additionally, invited external evaluations augmented the refinement of the curriculum, instructional/learning methods applied, as well as to ensure principles of equality in the deliverance of the curriculum

The EUCMS 6 year curriculum underwent continuous development within a consultative framework informed by internal evaluation, invited external review and international best practices. Through two-revision cycles, one directed at the pre-clinical curriculum with SAR and the other at the clinical training program with PER, the School designed a ***competency-based integrated-spiral-design curriculum***. The student activities and objectives of the program, courses and clerkships are disseminated to the Faculty, staff and students via several channels, such as ***Student Handbook*** and ***Clinical Training Manual.*** For students, these are also reviewed during New Student Orientation, and are made available on Moodle.

- **Nice research facilities**

We would like to thank the EEC for their comment regarding our research facilities. The new MedIC Basic Science Research Laboratory is equipped with interactive work surfaces sustaining many fields including Microbiology, Cell Biology and Biochemistry. The laboratory consists of an innovative cryotome, microtome in addition to further equipment required for preparation and cutting of fresh tissue. Incubators for growing cultures and centrifuges and various equipment to fulfill the needs of our researchers. All DNA, RNA and protein-related

techniques such as DNA/RNA extraction, Western blotting, RT-PCR, imaging techniques and immunochemistry can be performed. The dedicated research lab is integrating all of the above and gives the opportunity for hands-on research to both undergraduate and postgraduate students.

- **International research connections, partially formalized and funded**

In recent years, the School has significantly increased its research portfolio. Research spans from fundamental biology through translational research to population and clinical research, with an emphasis on research that can be translated into improvements in human health and wellbeing. Many Faculty members in the School are active investigators with strong collaborations within and out of Cyprus. The School has a well-defined research strategy, which seeks to build a strong performing research center and to leverage this to drive impacts on healthcare, international collaboration and innovation.

We are pleased that the EEC recognizes that the Department has numerous research connections. This international network is what has facilitated the Department' ability to offer Student Summer Externships at internationally renowned research centers. With this initiative, EUC medical students have the opportunity to participate in summer externships in prestigious highly ranked research institutions all over the world. The student experiences at these sites greatly enrich the EUC student by providing them the opportunity to learn in a wide variety of environments. To date, 125 students have participated in the EUCMS Summer Externship Program. The externships offered for the summer of 2019 are listed below. This summer, new additions include the National Institutes of Health, Yocoub Cardiothoracic Transplantation Units, among others.

No	University/ Specialty	Country	Max. No of Students
1	**University of Rome "Tor Vergata" (English Speaking)** Surgery, Cardiology, Medicine, Hygiene, Medical Biochemistry, Clinical Medicine, Cosmetics / Research	Italy	6
2	**University of Southampton** Medical Nutrition/Research	UK	2
3	**Barts and the London School of Medicine Queen Mary, University of London.** Neuroscience, Neurotrauma and Neurodegeneration / Research	UK	2
4	**AHEPA Thessaloniki** Neurology/Neuroimmunology/ Research	GR	3
5	**Shriners Hospitals for Children SHC Springfield Massachusetts** (SHC Springfield can provide in hospital housing and meals at no charge) Pediatrics, orthopedics /Research	USA	2
6	**Aristotle University of Thessaloniki Thessaloniki Greece** Obstetrics - Gynecology - Maternal Fetal Medicine	GR	3
7	**AXEPA Hospital Aristotle University of Thessaloniki** Internal Medicine	GR	3
8	**Hippokrateion General Hospital Aristotle University of Thessaloniki** Neonatology	GR	2

9	Hippokration Hospital Aristotle University of Thessaloniki Pediatrics – Infectious Diseases	GR	2
10	Papageorgiou General Hospital Aristotle University of Thessaloniki Orthopedics	GR	3
11	Aristotle University of Thessaloniki Forensic Medicine and Toxicology	GR	2
12	Alpert Medical School and Brown University Rhode Island Hospital Molecular Microbiology and Immunology	USA	2
13	American University of Beirut,	Lebanon	2
14	Golestan University of Medical Sciences	IRAN	2
15	Oxford Medical Transplant Surgery	UK	2
16	Sidra Organization Pediatrics/Neonatology,	Qatar	2
17	Oxford Medical Cardiology/Research	UK	2
18	University Clinical Halle (Saale) Institute for Medical Immunology	Germany	2
19	Thrombosis and Hemostasis Center Service d'Hematologie Biologique, Hopital Tenon, Group Universitaire de l'Est Parisien, INSERM U938, Research Group "Cancer-Hemostasis-Angiogenesis. Faculty of Medicine Sorbonne University, Paris	France	2

20	Neuroimmunology Unit and MS Center at Hadassah and the neuroimmunology laboratory	Israel	2
21	Thessaloniki AHEPA Cardiology	GR	2
22	Univ of Thessalia, School of Medicine Orthopedics	GR	2
23	Weizman Institute of Science, Hebrew University of Jerusalem Medical Biochemistry	Jerusalem Israel	2
24	German Oncology Center Cardiology	Limassol Cyprus	6
25	NIKON-Center of Excellence; Medical University of Graz, Austria	Austria	2
26	Johns Hopkins, USA Cardiology Cardiology	USA	2
27	Henry Dunant Hospital Cardiology	GR	2
28	Humanitas Research Hospital, Cardiology	Milan Italy	2
29	Technion - Israel Institute of Technology in Haifa	Haifa Israel	2
30	Larissa University Hospital Cardiology	Larissa Greece	2
31	Naval Hospital Athens Invasive Cardiology	Athens Greece	2 1.
32	The Donald and Barbara Zucker School of Medicine at Hofstra/ Northwell in NY	USA	2

33	Anesthesiology; Apollonio Private Hospital and the American Medical Centre in Nicosia	Nicosia Cyprus	2
34	Institute of Pain Medicine, Tel Aviv Medical Centre in Israel Anesthesiology;	Tel Aviv Israel	2
35	Neuroimmunology Unit at Hadassah and the neuroimmunology laboratory	Israel	2
36	Medical College of Wisconsin Department of Anesthesiology	USA	2

We have also established partnerships with international organizations to support joint clinical and research activities (such as the recent establishment of collaboration with the ELPEN experimental center and with the Hadassah Medical Center) (MoU signed – date: 30.3.18), public awareness campaigns, such as the antibiotic awareness week in collaboration with the European Society of Clinical Microbiology and Infectious Diseases, (Surveillance & Metacompetence dates: 10-11.6.19), and educational activities, such as the establishment of EUC as a training center for the European Committee of Infection Control (Workshop on Laboratory Diagnosis of Diphtheria, dates: 9-11.11.2018), and the recognition of EUC as an official site center for the Harvard T.H. Chan School of Public Health, (Principles and Practice of Clinical Research).

Several Faculty of the School are active members (or Fellows) of **international scientific societies**, such as the European Committee of Infection Control, the European Society of Cardiology, European Association for Endoscopic Surgery, American Association of Anatomists, Association of Clinical Anatomists, Federation of Association of Anatomists, Society for Neuroscience, Institute of Stress Biology & Medicine, European Resuscitation Council, American College of Clinical Pharmacology, Eurotox, Higher Education Academy and the Academy of Medical Educators among others.

We have recently partnered with the International Network for Healthcare Work Education (INHWE) which will open various new avenues for funding, including our recent application for an ERAMUS+ project to create training tools to upskill PhD supervision competencies.

The School of Medicine, EUC, in collaboration with the **World Health Organization (WHO)** Global Collaborating Centre for Diphtheria, Public Health England, United Kingdom and the **European Centre for Disease Control and Prevention (ECDC)**, co-organized an

International Workshop on the Laboratory Diagnosis of Diphtheria; an effort which received the support of the Ministry of Health of Cyprus. Lectures and hands-on workshop training took place in the state-of-the art microbiology laboratories of the EUC, School of Medicine in Nicosia, Cyprus. The collaborative effort by European University Cyprus, the World Health Organization and the European Centre for Disease Control and Prevention served to increase the awareness about diphtheria infections and equipped participants with appropriate laboratory skills to confirm the disease using specialized laboratory diagnostic methods. These efforts have begun to produce both new research efforts, and bring in funding.

The School of Medicine, as an official host, announced the ***2nd Cycle the Harvard T.H. Chan School of Public Health*** for the course entitled ***"Principles and Practice of Clinical Research" (PPCR).*** The PPCR certificate course is taught online by the Faculty of the Harvard T.H. Chan School of Public Health Faculty in Boston, and is open to interested senior medical students, graduate students, Faculty, staff and researchers interested in clinical research or academic research, in general.

The School of Medicine, EUC was invited to co-organize in the ***educational program of personal doctors*** for the Cyprus General System of Health, in collaboration with the ***Ministry of Health***. Faculty participated, giving lectures on topics of their expertise to doctors who were enrolled in the program in order to become accredited as personal doctors in the new Health System of Cyprus. (March 2019) Following and invitation by the ***Ministry of Health***, EUC Faculty became members of the newly established ***National Committee for development and implementation of Protocols and Clinical Guidelines***, initiated and chaired by the Ministry of Health, Cyprus. (April 2019)

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- **Teaching structures and staff sufficient for the current numbers of students. The programs are expanding and further staff is being hired.**

We are grateful the EEC acknowledges that we strive for the highest quality of teaching and instruction in the Department. The multi-modal teaching format applied at ECUMS, helps

bridge the gap between theory and practice, as critical appraisal skills are developed in PBL activities, case studies, Computer assisted learning, skills training, clinical association lectures, etc. The Department has very passionate teaching staff that work with an excellent team spirit that is fully appreciated by the students. We provide ample opportunities for Faculty members to participate in professional development to enhance their teaching, skills and knowledge for career advancement. The School has in place a sufficient cohort of Faculty members with the qualifications required to effectively deliver the medical curriculum, to meet the other needs and fulfill the other missions of the medical School. As noted above, over the course of the Schools development, the number of full-time and part time Faculty has increased significantly. With the current full-time taught student body, the student : instructor ratio is 1: 3.2. The student : instructor ratio is significantly lower when clinical instructors at the hospitals are considered. Finally, as noted previously, the School has currently opened 10 new full time faculty positions.

- **Department of Medicine's research focus needs to be better characterized and developed.**

  In recent years, the School has significantly increased its research portfolio. Research spans from fundamental biology through translational research to population and clinical research, with an emphasis on research that can be translated into improvements in human health and wellbeing. Many Faculty members in the School are active investigators with strong collaborations within and out of Cyprus. The School has a well-defined research strategy, which seeks to build a strong performing research center and to leverage this to drive impacts on healthcare, international collaboration and innovation.

  With the recent COVID19 crisis, one of the Department's research strengths has become more apparent. The Department, despite its small size, has three notable experts in Infectious Disease Prevention and Control. Not only is this apparent in the high-level public service that they are now providing, but there has been a rapid influx of training and research grants to support current efforts.

- **Outreach to society in Cyprus and elsewhere needs to be more systematically addressed, with the specific interests of the University, the Department of Medicine and Cyprus in mind.**

  As discussed previously, we agree and strongly believe that addressing societal needs is of

pivotal importance for any medical School, and could be addressed systematically. However, due to time constraints of the departmental evaluation noted above, we were unable to demonstrate the efforts we have done for community outreach programmes. Specific electives have been added to provide an effective means to introduce topics that stress new scientific, technological and clinical developments that are impacting on current biomedical thought (e.g. medical informatics, nanomedicine, regenerative medicine, drug development). Other electives have been introduced that address the current and anticipated needs of society and the health care system (e.g. antibiotics and prescribing policies, healthcare management, geriatrics, infection prevention). Additionally, the curriculum was designed to ensure that students are exposed to various clinical sites and structures, with focus on public health / primary care, which has been identified as a current need of the health care system. Smaller modifications are made to the course content in annual course outlines and course documentation provided for students. Students learn how to apply knowledge and skills in human behavior for medicine and health care. The team-based learning format and open discussions and debates in these courses, empowers the curriculum to adjust and modify contributions of the behavioral and social sciences, as well as medical ethics and jurisprudence to address new developments, anticipated needs of society and health care systems, as well as changing demographic / cultural contexts, without requiring curricular change.

As also noted previously, Faculty of the School of Medicine are active in various community and outreach activities, including voluntary activities (such as the recent collaboration with the Cyprus Special Olympics Committee), public awareness campaigns (such as the cardiovascular health campaign in collaboration with the Cyprus Cardiology Society), educational programs (such as, the Educational program on healthcare-associated infections for nurses in collaboration with the Nursing services of the Ministry of Health and the Educational program of personal doctors for the General Health System of Cyprus in collaboration with major Universities of Cyprus and the Ministry of Health, public awareness campaigns, such as the antibiotic awareness week in collaboration with the European Society of Clinical Microbiology and Infectious Diseases, (Surveillance & Metacompetence dates: 10-11.6.19), and educational activities, such as the establishment of EUC as a training center for the European Committee of Infection Control (Workshop on Laboratory Diagnosis of Diphtheria, dates: 9-11.11.2018), and the recognition of EUC as an official site center for the Harvard T.H. Chan School of Public Health, (Principles and Practice of Clinical Research).

During the course of the recent crisis, the Department has stepped forward with altruism and community service in an effort to help combat the Covid-19 amidst the worst public health crisis in the last generation, with multiple actions described above. The faculty of the School of Medicine have been actively making **public announcements** on television, radio and other media forms in order to advise the community on the outbreak and what protective measures they should take and serve as **advisors to the Ministry of Health** in Cyprus, as well as in Greece. Finally, EUC has spearheaded along with the Ministry with an ***Education Program for Doctors and Healthcare personnel*** with regards to preparedness and activities (e.g. PPE, etc), using guidelines shared with EUC by Johns Hopkins.Due to the increased risk of intra-hospital and intra-physician transmission of COVID-19, there is an urgent need to educate and train all healthcare providers, particularly high-risk physicians, on both basic and advanced Infection Control and Prevention (IPC) methods. Because of EUC School of Medicine's recognized expertise in IPC, ***the Cypriot Ministry of Health has called upon EUC Medical Faculty IPC Experts to establish an intensive simulation-based training program for Cypriot Healthcare Providers on Infection Control and Outbreak Preparedness for COVID-19.*** EUC is called upon to orchestrate this training, not only because of its expertise in IPC, but also for ***EUC's recognized expertise in Simulation Based Training***. In order to facilitate in the actions outlined below, senior EUC Medical Students will also be trained in this program. Following an agreement with **PanCypriot Medical Association and the Ministry of Health**, students have been called upon to participate in various activities to support the Ministry of Health to handle the current crisis in Cyprus. Students are from senior years of clinical training from the School of Medicine, and from the Infectious Disease Master of Science program.

The **student activities** include:

1- CALL CENTER MANPOWER- Students will help to man call centers for citizens to reach out for help and guidelines.

2- LABORATORY ASSISTANTS - Due to the large number of samples to be tested, students assist in the laboratories currently running tests.

3- PHYSICIAN ASSISTANTS - Cyprus is facing a shortage of Physicians to manage the outbreak. Senior medical students serve as clinician assistants.

4- REGISTRY - The Medical Association of Cyprus will be making a registry of cases and compiling data. Students help collect and manage data.

For each of the above activities, students are trained, and supervised by experts and faculty. **Student safety is of utmost importance**, and detailed **guidelines/written protocols** are provided and monitored by our IPC specialist faculty. EUC, School of Medicine, in response to the current public health crisis, has stepped forward with **focused community healthcare support** provided by its **expert faculty, its affiliated hospitals and its medical and graduate students**. EUC aims to stand by and assist the overwhelmed health care work force during this global health crisis, rather than sit on the sidelines, for the duration of the pandemic. Both the Faculty and Students of the School of Medicine took an **oath to provide care**. They are serving their oath.

B. Conclusions and final remarks

Please provide constructive conclusions and final remarks, which may form the basis upon which improvements of the quality of the Department under review may be achieved.

- **Teaching of medicine, having gone through one complete cycle, is very well set up. The Department of Medicine needs to make sure that outside contractors (teaching staff at hospitals and in primary care) comply with the set of professional standards of teaching. The expanding student body will require conscious organizational development and vigorous hiring of high-quality staff.**

We are grateful the EEC acknowledges that we strive for the highest quality of teaching and instruction in the Department through its first cycle. The EUCMS 6-year curriculum underwent continuous development within a consultative framework informed by internal evaluation, invited external review and international best practices. In agreement with EEC's comment regarding maintaining equal excellence of teaching staff at hospitals compatible with that within the medicine, we have devised a formal administrative and academic structure for facilitating clinical training of its medical students at its affiliated hospitals and clinics. These are established through formal agreements, as described above. The Clinical Training Manual and the Clinical Training Committee ensure optimal cooperation between all affiliated persons and sites with the School. EUCMS endeavors to communicate to the maximum extent with the Health Sector, both public and private through multiple processes, including the Advisory Board, Clinical Training Committee, membership on Governmental and/or Hospital committees, etc. The communication of EUCMS with the Health Sector is constant and bilateral, and it is primarily achieved through the clinical leads, as well as members and Chair of the Clinical Training Committee. EUCMS works with several affiliated teaching hospitals, alongside the Larnaca General Hospital, which was assigned to EUCMS by the Ministry of Health. As such, EUCMS has MOUs to ensure clinical placements with private sector hospitals and clinics, as well as with Private Specialists/Consultants who provide clinical teaching as clinical instructors. EUCMS carefully monitors the performance at all sites.

In this regard, the Department holds regular train-the-trainer sessions. The content of clinical training is optimized by simulating a clinical training session, providing tips on how to organize

a clinical training day and keep in line with the learning objectives, how to provide student feedback and to improve the content of their training. A guide for the logbook completion process has been made to assist clinical instructors. In addition, the members of the Clinical training committee (e.g. the hospital academic liaisons) regularly evaluate the content of the logbooks, as well as perform summative clinical assessments (e.g. by mini-CEX assessments) in collaboration with the clinical instructors. Additionally, through a collaborative effort of the Clinical Training Committee, Simulation Committee and Faculty, we have devised an standardized patient program, which includes training of Faculty, staff and students and which is currently in process. It should be noted that according to all Memorandums of Understanding with clinical sites, clinical instructors receive financial compensation for student training, as well as other incentives such as discounts for EUC programs, library access and participation in joint activities, including research projects, seminars and on- campus educational activities.

We agree with the EEC that maintaining excellence of clinical training is of paramount importance. We strive to improve the quality of the services we offer to our students with a major goal improving patient safety. We have a solid range of major clinical training sites that collaborate with EUC School of Medicine. The hospitals amount to over 1000 beds and more than 25 clinical specialties. In addition to these, the School of Medicine collaborates with small primary care and special centers (e.g. diagnostic centers).

In addition to rotations in hospitals and clinics, clinical training of EUC Medical Students is also complemented by training in the skills laboratories, simulators, and standardized patient encounter rooms, available at the EUC School of Medicine Campus. Among the above hospitals, EUC School of Medicine has an exclusive training agreement with American Medical Center (58 beds) and German Oncology Center (planned expansion to 80 beds), Larnaca General Hospital (181 beds with planned expansion to nearly 300 beds by end of 2019). These exclusive clinical settings, with a current capacity of more than 320 beds and a planned expansion over 500 beds, as well as the availability of other primary, secondary, tertiary and special centers, adequately cover the clinical training needs of the EUC medical students.

According to the Clinical Training Organization plan, each major hospital has at least one designated Hospital Coordinator/Clinical Liaison, who is an employee of the hospital, is the liaison with the School of Medicine and is responsible for ensuring that the EUC clinical training is delivered as planned. Their principal role is to ensure quality and conformity with the EUC

guidelines as described in the CTM, including overseeing rotation schedules and determining the scope of student activities within the hospital/clinic. Each Hospital coordinator communicates closely with the Clinical Training Committee through the clinical training assistants and appointed EUC Faculty who consist the Academic Clinical Liaisons, and are also designated for each clinical rotation site.

The Clinical Instructors are directly responsible for the actual bedside education of the medical students and for considering the student's progress against learning objectives set by the EUC clinical curriculum. Students shadow their clinical instructors, to maximize their clinical exposure, while being appropriately monitored at all times. Furthermore, the clinical instructor has a pivotal role in student assessment. In order to ensure that clinical instructors are appropriately informed and aligned with the learning objectives and assessment methods of the EUC School of medicine, following their selection, EUC organizes train-the-trainer programs on EUC campus, as well as educational and feedback meetings in each hospital. Clinical training is complemented by the Chairs and co-Chairs of the five Clinical Divisions (Internal Medicine, Surgery, Child & Maternal Health, Social Medicine, Neuroscience & Sensory Systems) who are mainly responsible for the overall academic content and coordination of the courses taught in their division. In addition, the Clinical Training Advisors, are full-time Faculty who are assigned individually for each student, keep contact with the students for the whole duration of their clinical training, ensure that all requirements for entry into clinical training are correct and complete, and review evaluations, grades and graduation requirements.

- **Facilities are modern and in very good shape.**

We would like to thank the EEC for recognizing that our School facilities and resources are excellent. We have worked hard, to maintain our estate at the highest standards, and take extreme pride in our powerful and welcoming learning/working environment for the entire EUCMS community. The School makes a concerted effort to review and update all resources so as to remain update and effective. A constant strategy has been to "maintain excellence in our infrastructure necessary to deliver cutting edge curriculum and ensure our educational mission, "strengthen research infrastructure to ensure research becomes cutting edge, and for clinical training. The School of Medicine has facilities dedicated to preclinical years and the theoretical and skills training of the students during their clinical years. Facilities enable

dynamic learning, and provide state-of-the-art teaching tools, including the active incorporation of technology to enhance student learning. The learning environment at the Medical School provides diverse physical locations and contexts to facilitate student learning. These learning environments have both a direct and indirect influence on student learning, including their engagement in what is being taught, their motivation to learn, and their sense of well-being, belonging, and personal safety.

- **There are manifold international connections, partially formalized and funded.**

We are pleased that the EEC recognizes that the Department has numerous international research connections. This international network is what has facilitated the Department's ability to offer Student Summer Externships at internationally renowned research centers. With this initiative, EUC medical students have the opportunity to participate in summer externships in prestigious highly ranked research institutions all over the world. The student experiences at these sites greatly enrich the EUC student by providing them the opportunity to learn in a wide variety of environments. To date, 125 students have participated in the EUCMS Summer Externship Program. The externships offered for the summer of 2019 were provided in section 7. This summer, new additions include the National Institutes of Health, Yacoub Cardiothoracic Transplantation Units, among others. As described above, the Department is constantly increasing its international connections (e.g. partnership with the International Network for Health Workforce Education) which has opened new avenues for research funding.

- **Outreach needs to be more systematically implemented.**

As noted previously, we agree and strongly believe that addressing societal needs is of pivotal importance for any medical School. Due to time constraints of the departmental evaluation noted above, we were unable to demonstrate the efforts we have done for community outreach programmes.

Particularly, during the course of the recent crisis, the Department has stepped forward with altruism and community service in an effort to help combat the Covid-19 amidst the worst public health crisis in the last generation. The faculty of the School of Medicine have been actively making **public announcements** on television, radio and other media forms in order to advise

the community on the outbreak and what protective measures they should take and serve as **advisors to the Ministry of Health** in Cyprus, as well as in Greece. Finally, EUC has spearheaded along with the Ministry with an ***Education Program for Doctors and Healthcare personnel*** with regards to preparedness and activities (e.g. PPE, etc), using guidelines shared with EUC by Johns Hopkins. Due to the increased risk of intra-hospital and intra-physician transmission of COVID-19, there is an urgent need to educate and train all healthcare providers, particularly high-risk physicians, on both basic and advanced Infection Control and Prevention (IPC) methods. Because of EUC School of Medicine's recognized expertise in IPC, ***the Cypriot Ministry of Health has called upon EUC Medical Faculty IPC Experts to establish an intensive simulation-based training program for Cypriot Healthcare Providers on Infection Control and Outbreak Preparedness for COVID-19.*** EUC is called upon to orchestrate this training, not only because of its expertise in IPC, but also for ***EUC's recognized expertise in Simulation Based Training***. In order to facilitate in the actions outlined below, senior EUC Medical Students will also be trained in this program. Following an agreement with **PanCypriot Medical Association and the Ministry of Health**, students have been called upon to participate in various activities to support the Ministry of Health to handle the current crisis in Cyprus. Students are from senior years of clinical training from the School of Medicine, and from the Infectious Disease Master of Science program.

Taken together, the Department in response to the current public health crisis, has stepped forward with **focused community healthcare support** provided by its **expert faculty, its affiliated hospitals and its medical and graduate students**. EUC aims to stand by and assist the overwhelmed health care work force during this global health crisis, rather than sit on the sidelines, for the duration of the pandemic. Both the Faculty and Students of the School of Medicine took an **oath to provide care**. They are serving their oath.

Conclusion:

The leadership, as well as the Faculty, staff and students found the EEC's candid discussions a constructive learning process. We all believe that this review was a positive experience and feel that we were provided with important input on how to move effectively forward. All of our staff members were enthusiastic about participating in the review process. The Department thoroughly reviewed the findings, strengths and areas of improvement clearly indicated by the EEC following their review. We have attempted to respond to each item specifically and succinctly, indicating our actions. By embracing the EEC's comments and suggestions, we are convinced that our Department will be able to more effectively advance its program, ensure the learning outcomes of its students, and the well being of the EUCMS community. EUCMS leadership has imbued the need for excellence in the medical School, recognizing that this is achieved not by a momentarily action, but rather, by habit. More importantly, the excellence that all members of the Department have strived to obtain in the program and School is dependent upon accepting critical evaluation of our performance and acknowledging areas that need improvement. In this regards, we are grateful to the EEC for their candid discussions regarding our program, and the insightful comments and suggestions throughout their report.

C. Higher Education Institution academic representatives

Name	*Position*	*Signature*
Elizabeth Johnson	Dean	
Ioannis Patrikios	Chairperson	
Theodoros Xanthos	Curriculum Coordinator	
FullName	Position	
FullName	Position	
FullName	Position	

Date: 30.3.2020