



**School of Medicine**

**ANNUAL REPORT**

**2019–2020**

**ANNEX II – AEB REPORT**

**University of Minho**

## **Report of the External Advisory Board of the School of Medicine (EAB) of the University of Minho – October 7 and 8, 2019**

### **Introduction**

The EAB visited the School of Medicine on October 7th and 8th, 2019. Some members of EAB also attended the Graduation Ceremony of the School of Medicine on the morning of October 8th. Students from the 13<sup>th</sup> cohort of the six-year course and the 4<sup>th</sup> cohort of the four-year course received their degrees along with prizes for students and a number of special awards to staff of the School of Medicine. This marked a significant stage in the continuing progression of the School and gave the EAB a positive insight into the cohesion, collaborative spirit and progressive nature of the School of Medicine. It is noted that leadership of the School is evolving to meet future ambitions and challenges.

The School has achieved considerable and sustained success and demonstrates an on-going appetite for enhancement of both teaching and research. EAB supports and encourages such ambition wholeheartedly. However, a number of confounding factors are on the horizon, mostly generated externally and through government actions, that are likely to have an impact on the School.

### **Medical undergraduate degree course**

The current course is popular with applicants (81% of students put Minho as their first choice) and produces graduates who are successful (Minho graduates often come top in the national residency examinations). Nevertheless, nationally Medicine is no longer the most popular academic course for students in Portugal; the EAB understands that applications were down by 9% this year. Also, it has been shown that students become less satisfied as they progress through the course, at least partly because of the difficulties in transitioning between early years academic study and later clinical exposure. The School reported during our last visit in 2017 that they planned a significant review of the curriculum to address some of these issues and 'MinhoMD' was conceived one afternoon in May 2017.

The EAB heard about the curriculum renewal project in our last visit and many of the issues raised in the report of EAB at that time are believed to be answered by the new course, for example early clinical exposure, more clinical skills in the early years, better vertical integration, etc. This year we received the proposal (submitted to and accepted by the University in September 2019), a presentation and discussions with Course Leaders, current students and alumni. Key aspects of the new course are the Mission and Vision. The Mission of the School is: *"Prepare our students to be excellent physicians in 2050 and beyond"*, with the Vision being: *"Be the most creative and innovative medical faculty in Europe in the 2020's"*.

The project recognized that while the Minho degree was novel and innovative when first established nearly 20 years ago, other medical schools have now caught up and, significantly, Medicine is changing along with the expectations of both students and the Society in which the students will eventually work as doctors. The School of Medicine at Minho has taken a characteristically innovative approach to renewal of the curriculum and has submitted proposals for MinhoMD. Consultation with various stakeholders has been extensive (captured in the transcript of the presentation called *"One Spring afternoon in May 2017..."*). Their four stage approach to manage the project is almost complete.

There are seven threads and 3 pedagogical models described by the School but a key aspect of MinhoMD is that it offers students significant choice to co-produce their degree, while remaining focused on the core knowledge, skills and attributes of a well-prepared doctor.

An interesting consequence of students being able to choose their optional components in this course is that they have added flexibility and can, potentially, be invited onto an accelerated pathway if they show the academic abilities and behaviours likely to indicate they will benefit from this pathway. From discussions during our visit it is clear that the School has considered the advice and support necessary for students during the new course as well as making proposals to change the assessment methods to align better with the learning outcomes.

Increasingly medical care is given more in the ambulatory setting than in hospital-stays. Therefore hospitalisation time is reducing making it more difficult to manage the education of both students and residents. By encouraging students to maintain a log of the type of patients they see and the students' roles in managing their care, very important information about the students experience can be obtained to assist the teachers responsible for post-graduate education and also to influence changes to the clinical exposure of students. Information about the interprofessional patient path, which is especially important for discharge planning of patients, should also be monitored. The knowledge about the competencies of other healthcare professions is important in order that patients receive safe and high quality treatment after discharge from the hospital. To realise this, encounters between medical students and students from other healthcare professions are crucial in order for both sets of students to learn with, from and about each other. If cooperation with the local nursing school is difficult at the moment, perhaps other institutions and sites could be accessed.

As well as data as to the type of patients (diseases and severity) seen by the students and residents it is important to have data also on the professional development of the residents in the various disciplines, to know who manages their education and where they receive their clinical training. It would be helpful to have these data for the next meeting of the EAB.

After substantial discussion and debate the EAB is pleased to support the curriculum renewal as it was described to us and to offer its full support to the application for accreditation. Indeed, members of EAB described this project as '*inspirational*'. Nevertheless, it is recognized that there are considerable challenges to implementation of the project within the timescale proposed (i.e. by September 2020). Amongst these are: pressures on staff time; persuasion of some colleagues and accreditation bodies; ensuring the current students do not perceive their 'legacy' course is in any way inferior to the new one; and logistical issues around availability of space, scheduling, resources and ensuring students receive adequate advice and support especially during their optional module choice and in preparation for potential 'fast track', amongst others. Another consideration is that some of the optional modules may be held in other Schools of the University with very different teaching methods and approach. The School may want to brief other schools involved about the School of Medicine's approach and possibly offer help to other Schools with advice on this topic.

These issues were discussed during our visit and it is clear that the School has considered them carefully and already addressed many of them. This foresight is typical of the School's operation and ethos and is something the EAB has come to expect. The current curriculum review is, however, one of the most substantial exercises the School has attempted and support from the University will be essential to ensure success of the project.

Particularly important is the way in which funding is made available to the School. We heard some details of how the School's ability to utilize funds can often be slow because of University processes and that the proportion of funds that eventually reaches the school is often small compared with the amount obtained. EAB repeats previous calls for increased promotion of the School's successes and the development of more fundraising aimed specifically at, and for, the Medical School, which is a bright star within the University. Also, the Medical School is a proven success story and EAB recommends it be given significant autonomy in matters of finances, human resources, estates and infrastructure in order to continue its success.

Two key external challenges have been identified. The first appears to have been unexpected and the second is a known and on-going issue. Firstly, Hospital Braga has been run very successfully as a Public Private Partnership for many years. The positive relationship between the School and Hospital has been a cornerstone in the successful development of the clinical course. However last year it appears that the Government instructed a change to an entirely public management. We heard that this first year of transition is going well with positive relations being maintained. However, the EAB recognizes this as a source of potential risk that needs to be monitored carefully at the highest levels. The second issue is the inability of Medical Schools in Portugal to recruit international students into their undergraduate courses. Across the rest of Europe and beyond, international students bring diversity, talent and substantial funding into the higher education sector. Minho, with its reputation and international networks, is well-placed to recruit high quality international students into its courses, which EAB believes should be encouraged. Furthermore, the funds from such recruitment should remain within the School to support continued developments.

Nevertheless the EAB recognizes that, while the tuition fees of international students will help, their education will require more support and cost more and therefore their economic benefits will be mitigated somewhat. The sources of revenue that deserve continued encouragement are philanthropy and the financial support from the hospital, which will require the medical faculty to demonstrate on-going improvements in productivity.

#### **Meetings with students and Alumni Medicina**

During the visit EAB met, separately, with 16 students and 7 alumni. Most of the students were postgraduates, mainly PhD students. The students were unanimous in their approval of the proposed new medical course and they all wanted to be involved in renewal of the curriculum, but so far only one had been in a focus group. However, most said they had spoken about it with staff and other students informally and they felt well-informed on the plans. Interestingly none of them felt they might be disadvantaged by not being on the new course although a question was asked – “...if everything is so good now, why change?”. The students followed up by commenting that there is always room to improve and the new course could enhance career prospects and make graduates more humane. There were no strong views expressed about the possibility of taking a fast track through the new course, although some participants thought it might help with gaining a residency place if they finished in 5 years instead of 6. The opportunity to choose optional modules themselves was widely supported by the students.

Students believed Minho provided more opportunities than other universities (more ‘open doors’) and some of the PhDs saw many opportunities in the Medical School for them to apply their knowledge. The postgraduates were keen to apply their knowledge and skills and they commented that facilities, including equipment, for their research were good.

When asked about their preferred future employment areas only one student said they wanted to be a family doctor with the rest aiming to work in hospitals. As well as the cultural week (named in memory of Professor Joaquim Pinto Machado) involving, amongst other things, film studies and talent contest, the students also pursue opportunities that complement their studies. For example, the Happy Village project (“Aldeia Feliz”) involves students visiting isolated and often elderly residents where the students can make assessments of health and social conditions and employ skills such as measuring blood pressure and their communication skills.

The alumni spoke eloquently about the skills they obtained during their time as students at the School of Medicine at Minho. They felt they had “*collected tools*” to solve problems throughout their 6 years of study. Interestingly they felt well prepared for acute disease including diagnosis and initial care, but not as well prepared for chronic management. Alumni remembered fondly their time as students and the relations with staff and how this appeared different from other institutions. Alumni felt strongly that they were better prepared to meet, communicate and examine patients than medical students from other universities: indeed they were not afraid to “*put our hands on the patient*”. Alumni said they felt confident and this was related to clinical skills training and extensive clinical exposure as students. When asked about the new course, alumni were broadly positive and confirmed they had been consulted about it. They looked forward to the opportunity of returning to the School as teachers and thought graduates from the new course would be well prepared after studying the optional components. The national problem of too few residency places came up several times and was clearly a concern.

Alumni have a direct input into continuing medical education and run specialist training courses, for example in Psychiatry, Anaesthesia and Neurology, as well as basic competency courses in Orthopaedics and specialized Clinical Communication skills training. Alumni Medicina also partnered with the School in setting-up the P5 Medical Digital Centre and B.ACIS. The Alumni Medicina play an important part in the social fund to help support students in financial difficulties. Links between the School and both students (through NEMUM) and the Alumni remain excellent and these are an important characteristic of the University of Minho medical course, which EAB commends strongly.

### **Research Institutes and Postgraduate Programmes**

The successes of the ICVS and other research institutes is substantial. Competitive research grant funding to the value of € 22.3 million was achieved over 3 years (€8.1million in 2018); 283 papers published in 2018 with an average impact factor of 4.8. Productivity per PhD is increasing, from 1.54 papers per PhD in 2014 to just over 3 papers per PhD in 2018. The majority of these articles were in the four research domains of Neuroscience, Microbiology, Surgical Sciences and Population Health. Earlier projects are now showing great success, such as the ICVS/ 3B’s-PT Government Associate Laboratory and the Clinical Academic Centre - Braga Association (2CA-Braga). It is hoped that recent developments, such as the P-5 Digital Centre in association with Alumni Medicina, will become equally successful.

EAB heard that there have been changes in the leadership of both ICVS (now led by Jorge Correia-Pinto, who succeeded Jorge Pedrosa early in 2019, and 2CA-Braga, which is now led by João Ferreira. The number of clinical trials within 2CA remains high with around one-third of all clinical trials in Portugal being conducted at the University of Minho. EAB commended this continuing achievement but recommended that efforts be made to extend this internationally to enhance both reputation and sources of funding. The introduction of ORBEA (Orgão de Bem-Estar e Ética Animal/ Animal Welfare and Ethics Body) early in 2018 is

a progressive step and is complemented by the ICVS and School signing the Public Agreement on Quality and Transparency in Science Involving Laboratory Animals. Additionally, collaborative projects are in progress such as the international Institute for Assessment, joint with the National Board of Medical Examiners and the Foundation for Advancement of International Medical Education and Research. International networks are expanding as are staff and student exchanges, notably with Thomas Jefferson and Penn State universities in America.

Locally there have been major improvements in PhD thesis assessment juries, for example no longer including supervisors in the panels, and increased supervisor training, transferable skills training for students and more emphasis on Ethics and research integrity compliance. Externally the School has been awarded an ORPHEUS label in recognition of its excellence in PhD training and compliance with best practices. Former PhD students are distributed roughly equally (around 25% in each) in foreign institutions, in Portuguese institutions outside Minho and within the University of Minho. Of the remainder some are working in industry (9%), further study or 'not known'. The reduction in FCT funding for PhD scholarships is likely to be an issue for the future; in the year 2018-2019 the School enrolled 38 students in Masters and PhD programmes with many supported by FCT funding. International professional training programmes form an important part of the function of the ICVS and in 2018-2019 36 courses or workshops ran with over 800 participants. EAB also heard that around 180 undergraduate students benefited from a research experience directly as a result of the research institutes, which EAB regards as a very positive outcome.

#### **Human resources**

When the School began it emphasized the importance of its human resources, both staff and students, and it continues to do so today. Seven essential aspects have been articulated to ensure new staff are recruited that will engage with the ethos of the School. The School has also established benchmarks for staff reward and progression and has an annual staff development programme for both new and existing staff. In 2018-2019 the School has 84 faculty, 46 of whom are PhDs. There are 6 Full Professors, 8 Associate Professors, 5 Assistant Professors and 65 invited Teachers. Staff details were provided to the EAB in the Annual Report (Annexe IX). Non-academic staff are vital to the success of the School and currently there are 37 permanent staff in this category. The profile of these staff is good in comparison with other Portuguese institutions and these staff have access to educational development to enhance their qualifications.

#### **Financial resources**

The School has achieved great success in obtaining competitive funding, which the EAB commends. This report has already mentioned the opportunities to extend this even further internationally (especially for Clinical Trials) along with other promotions to raise independent funds that the School can invest directly into its ongoing work. The University as a whole should consider more support to enable fundraising and providing greater autonomy to the School in terms of its financial management in order that as much of these funds as possible go to the School for its own use. Philanthropy and financial support from the hospital are likely to remain important sources of future funding.

This report has already noted that international students can increase diversity and bring high quality international students into the university. The contribution of international students is also financial and many institutions across the world rely heavily on fees provided by international students. EAB recognises there is a significant cost to recruiting and supporting this group of students, which needs to be balanced with potential income.

However, we feel that as much pressure as possible should be exerted by the University in combination with others in Portugal to ensure such recruitment can take place in the future.

### **Outreach activities**

Outreach has provided some helpful funds for the School through activities of the spin out company ICognitus. Such enterprise is commended and we understand that other opportunities are being considered, for example the International Institute for Assessment. The postgraduate training courses continue to expand and they increase international networks and promote the reputation of the School, which is very positive indeed. EAB recognizes and commends the emphasis on '*generation of value*' in the School's Plans for the Future on page 28 of the Annual Report for 2018-2019.

### **Concluding Remarks**

The School continues to excel, both in education and research. MinhoMD is a significant and important new stage in the progression of the School and the proposed curriculum renewal is supported strongly by the EAC. There remain significant challenges including implementation of the new curriculum, changes in Government funding (e.g. FCT and Hospital Braga) and the need for greater autonomy of School finances. However, EAB has confidence in the School and its evolving leadership and looks forward to seeing it meet these challenges in the future.

Finally, our friend and strong supporter of the Minho School of Medicine and Coordinator of EAB, Professor Fernando Lopes da Silva passed away during the summer. We will remember him for his wisdom and friendship over the years. Also, Professor Arsélio Pato de Carvalho stepped down; we thank him also for his insightful contributions.