

# Virtual Mentor

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## MEDICAL EDUCATION

### **Becoming a Doctor in Europe: Objective Selection Systems**

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Applying to medical school can be a daunting task in any part of the world. The admission process is, however, quite varied both among and sometimes within countries. In the United States, medicine is most often a graduate program that requires a prior undergraduate education during which medical school prerequisites are fulfilled. The criteria used by U.S. medical schools to select prospective students combine academic (undergraduate GPA and MCAT scores) with nonacademic factors (e.g., personal statement, interview, letters of recommendation, extracurricular activities). A similar mix of academic and personal criteria is used for placement in residency.

In Europe, where medicine has traditionally been a 6-year undergraduate degree, some universities have recently launched 4-year graduate medical programs, like those in the U.S. In Portugal such programs are controversial; the Portuguese Medical Association has publicly criticized them as “having controversial quality and being absolutely unnecessary” [1].

The criteria used by European universities vary from exclusively academic to combined academic and nonacademic criteria to the interesting “waiting period” in Germany. Such heterogeneity is also present in placement of medical graduates in residencies. The European countries that employ exclusively academic criteria for admission to medical school and residency contrast sharply with the U.S. While some criticize this purely objective system, there are also strong arguments in its favor.

### **Admission to European Medical Schools**

Most European countries use exclusively academic criteria to select students for the majority of seats available in medical schools. This is true in Belgium, Finland, Greece, Italy, Poland, Portugal, Romania, and Spain [2-6]. According to information provided by Denmark’s Ministry of Science, Innovation and Higher Education, three out of the four medical schools in Denmark use students’ GPA from upper secondary education to place them in 90 percent of the available seats. The remaining 10 percent are admitted based on consideration of individual qualifications (personal communication with author, November 9, 2012). In the countries listed above, admission is granted to the applicants with the best combination of high school GPA and grades in the national examinations, normally in biology, chemistry, physics, and math. These examinations have little resemblance to the SAT or MCAT, inasmuch

as they consist of fewer, longer, and more complicated questions than the U.S. exams.

France uses an interesting variation of the described academic criteria. After high school graduation any person can enroll in medical school. All students take a competitive examination at the end of the first year, and those who perform best on the exam are allowed to proceed to year 2 of their medical studies and “are considered to be heroes, the victors of a ‘war’ that has defeated 9 out of 10 of their classmates” [6].

Other European countries, such as the United Kingdom, combine academic and nonacademic criteria to select their students. A 2006 study conducted by Parry et al. on 23 medical schools in England found that all medical schools combined academic and nonacademic criteria and only two did not interview candidates for admission [7].

Some countries, Germany and the Czech Republic among them, employ both exclusively academic and combined academic/nonacademic systems. In Germany, 20 percent of the seats are reserved for students who are in the top of their high school classes, and 60 percent of all seats are reserved for students selected according to the university’s own set of criteria, even though “universities are required to resort to final grades from school as the predominant admission criteria” [8]. And there is an interesting third path to medical school in Germany that “rewards the waiting time of an applicant”: the last 20 percent of the available seats are reserved for applicants who have waited a long time from high school graduation to get into medical school [8]. In this case, at least in the first stage, grades are not important as long as the student has a high school diploma. However, if the student decides to study another subject at a German University, “the years of study are not accepted as waiting time” [9].

The Czech Republic, in a procedure it shares with Hungary and Bulgaria, uses academic criteria for admitting citizens and both academic and nonacademic criteria for admitting international students, in order to attract foreign students who were not granted admission to universities in their home countries. For this purpose, some universities, such as the Czech’s Republic’s Charles University First Faculty of Medicine, offer medical programs taught in English, for which, unlike the programs taught in Czech language, students pay tuition (personal communication with author, November 1, 2012).

### **Residency**

Selection methods for residency also vary. Most European countries, such as Germany and the Czech Republic, do not require an examination for admission to residency. The selection of “future medical specialists is made locally and by medical discipline depending on internship vacancies (or equivalent) in hospitals” [6]. Students are encouraged to apply to a hospital and are admitted to the available spots based on assessment of their skills, enthusiasm, and so on. In Belgium,

specialization is restricted to a limited number of candidates. To be eligible for specialization, students must have a training plan approved by the licensing commission for the specialty concerned [10]. In France, Portugal, and Spain, medical graduates sit for a vast national examination, after which they can choose their area of specialization [6]. While Spain's Examen Medico Interno Residente (MIR) can test any aspect of medicine, France's Epreuves Classantes Nationales (ECN) and Portugal's Exame da especialidade (EE) are restricted to certain preestablished topics. The latter only tests internal medicine topics.

### **Strictly Objective Systems**

Access to medical education in countries such as France, Portugal, and Spain, in which both admission to medical school and residency are based exclusively on academic criteria, differs greatly from access in the U.S. It can be said that the quantitative nature of the system does not allow universities to evaluate skills other than excellence in theoretical knowledge. The critique is that the practice of medicine requires characteristics such as motivation, interpersonal skills, and the capacity to work under pressure that are better assessed in interviews, personal statements, and letters of recommendation.

The merit of using such nonacademic criteria to predict the suitability of prospective candidates for medical school or residency is, however, uncertain. The argument that medical schools should be able to select students with certain characteristics is weakened by the fact that "there is no absolute consensus on the characteristics medical schools should be seeking among future doctors—indeed, in a review of admissions processes in the U.S., Albanese et al. noted that 87 different personal qualities relevant to the practice of medicine have been identified" [7].

The reliability of nonacademic criteria such as interviews, personal statements, and letters of recommendation for the purposes of selecting the best candidates is also questionable. Research suggests that "unstructured interviews, characterized by a conversational, informal style, questions that are not specified in advance and a lack of objective scoring criteria, appear to be most commonly used among medical schools. This preference is quite surprising in light of the susceptibility of unstructured interviews to a variety of biases" [11]. In 1990, Edwards et al. noted that "studies of interviewers show that they are often biased in terms of the rating tendencies (for instance, leniency or severity) and in terms of an applicant's sex, race, appearance, similarity to the interviewer, and contrast to other applicants" [12]. The few existent data on the value of personal statements and letters of recommendation reveal that they have no predictive value in subsequent achievement [13].

The strictly objective systems are based on previous academic performance, which is traditionally regarded as a "good, but not perfect, predictor of achievement in medical training" [13]. A study conducted in Canada challenged this established idea. Its results indicated that the "traditional cognitive predictors have the most utility in predicting future academic and clinical performance," which were assessed

by the results in part II of the Medical Council of Canada's Licensing Examinations (LMCC), a sound measure of clinical skill [14].

A stronger argument against the sole use of objective systems, especially in the admissions to medical schools, is that it is only truly just in countries where major disparities in secondary education do not exist. On the other hand, an objective system such as this can be used as a tool to diagnose regional disparities in education—not just among those applying for medical education. Because tackling these problems requires time and major financial investments, one possible transitory solution to ensure equity is to establish quotas for the most problematic regions where the students who have the highest grades within those regions are granted admission.

Overall, provided that there are strict policies regarding confidentiality and student identification and that there is special consideration for disparities in education, this is a clean system in which the best students are awarded with the best academic opportunities. The selection process is fully transparent, merit-based, and with no room for subjectivity, which can eventually be used as a justification for biased or corrupt decisions.

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