

Applying to Medical School in Scotland and in the United States: A Comparison

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Nigel McGregor is a sixteen year old high school junior who is at a stage in his development when he is beginning to consider his goals and aspirations for his future career. Nigel has excelled academically throughout his elementary, middle, and high school years and is also very active in sports and student government. Science has always been a strong subject for Nigel, and he is very interested in biology and physical science. Nigel has spent many of his Saturdays over the last three years volunteering at his local hospital, and this experience has really sparked his interest toward a career in medicine. As a junior in high school Nigel is aware that he will be spending his senior year applying to college. He is interested in a school that will offer a premedical curriculum, but he is also interested in learning about the possibility of pursuing a medical degree abroad, specifically in Scotland where his family is originally from, and where his grandparents still reside. As an American citizen born in the United States, Nigel would be considered an international applicant at a Scottish University. This designation poses a variety of challenges for Nigel in admissions and eligibility, financial matters, and also in his ability to practice medicine in the United States if he chooses to return to the U.S. following degree completion. This paper will investigate Nigel's options as a student seeking to attend either a U.S. or a Scottish medical school. It will consider the differences as well as the similarities of both respected paths toward becoming a physician.

To begin it is necessary to compare the primary and secondary systems of education in Scotland to the elementary and high school grades in the United States to determine where Nigel is positioned within each country's academic hierarchy. Scotland's early education system begins at age three in what is called "pre-school." This instructive stage is not compulsory, though every three and four year old in Scotland is entitled to a free, part-time placement in a pre-school setting, and in 2005, 81-98% of all three and four year olds attended some pre-school education (Association of Heads, Teachers, and Deputies in Scotland [AHDS], 2006, p. 2). According to the Association of Heads, Teachers, and Deputies in Scotland "children generally learn to work and play well with other children in pre-school centers, and the level of progress made offers a sound basis upon which primary school can build" (AHDS, 2006, p. 2). In the United States pre-school education is elective as well; however, unlike in Scotland, all citizens are not entitled to these programs; in fact individual funding for programs such as Head Start, which is a child-focused program whose goal is to "increase the school readiness of young children in low-income families by providing the means necessary to attend," are based on income levels and are not offered to or available for all interested candidates (U.S. Department of Health and Human Service, 2006). A system of education such as the one implemented in Scotland that provides preschool education to all its citizens supplies both necessary child care and developmental enhancement which will prove in effect and time to best serve the larger society.

Regardless of whether students opt to attend pre-school, by age five or six in both Scotland and the United States, all students begin compulsory primary or elementary school. In

Scotland “pupils follow a broad curriculum informed by national guidance, and the class teacher is responsible for finding out, understanding, and meeting pupils’ pastoral and learning needs.” (AHDS, 2006, p. 3) Similarly, in the United States students follow a general curriculum, which is sequentially patterned and age appropriate for each grade level. Teachers not only attend to the needs of the students within their classroom, but also rely on the additional staff in place within elementary schools, such as guidance counselors and social workers for “pastoral” concerns, which are more personal and specific to the individual student. Students in both Scotland and the U.S. attend primary or elementary school roughly from age five to twelve, and this level of education prepares and equips them to succeed in the Scottish secondary environment or the American middle school.

Middle, or Secondary education, is where the difference becomes apparent between the two country’s educational systems. “Secondary education in Scotland does extend from age 12 to 18 but it is not compulsory after the age of 16. Lower secondary education (age 12 to 16) is divided into two stages, the first two years (S1 and S2) provide a general education and the second two years (S3 and S4) contain specialist elements and vocational education. Upper secondary education (age 16 to 18, S5 and S6) covers the final two years of secondary school and prepares pupils for vocational training, employment, or higher education” (Scottish Executive Publications, 2003, p.3-4). Comparatively, in the United States students enroll in middle school for three years following their elementary training in preparation for the four additional years of high school necessary to enter an institution of higher learning. Unique to Scotland is the National Qualification system of assessment, which is used to evaluate and determine that Scottish students fully grasp the material presented at each grade level. “Standard Grades are generally taken over the third and fourth years at secondary schools, with an exam at the end of the fourth year, and National Courses are available from Intermediate 1 to Advanced Higher and consist of three subject-related National Units, which are assessed by the class teacher or lecturer, plus an external assessment. To gain a full Course award students have to pass all the Unit assessments as well as the comprehensive exam” (Scottish Executive Education Department, 2006, p.4). While the United States does not hold its public school students to these same monitored standards, a recent piece of legislation implemented by President George W. Bush, titled the No Child Left Behind Act, has led the government to uphold higher standards and greater level of accountability throughout the country’s public school systems. “The No Child Left Behind Act requires the use of assessments in each state that measure what children know and learn in reading and math in grades 3-8. Student progress and achievement is measured according to tests that are given to every child, every year” (U.S. Department of Education, 2003, p.1). Monitoring students’ progress and development in the early and later stages of their education ensures that both countries are preparing their students for success and are encouraging further academic progression.

Because Nigel is sixteen years of age and in his junior year at an American public high school, it would be difficult to make a clear association with where he would fit into the Scottish educational hierarchy, which exposes the first complication Nigel would face when applying to a Scottish medical school directly following his high school graduation. In the United States, medicine is not offered as an undergraduate discipline. Students must complete an undergraduate degree from an accredited university before they apply to medical school. This varies from the Scottish system which allows students to study medicine directly following their

fifth or sixth year of secondary education or “advanced higher,” making some medical school applicants as young as seventeen. In the United States an undergraduate degree is required for medical school application as it lays a solid foundation for learning and a broader understanding of the needs and issues faced by our large and dynamic society. The time spent gaining an undergraduate degree prior to medical school can also allow a student to gain valuable skills and experience in a medical setting and can help clarify if medicine is an appropriate career path.

As in the United States, criteria for admission into a Scottish medical school includes work or volunteer experience in a medical or health care environment, evidence of personal motivation and leadership qualities shown through hobbies and extracurricular activities, and most importantly academic achievement, specifically in the areas of biology and chemistry. Students who lack sufficient course work in these areas prior to application (within the four required years of secondary education or the “additional higher” years of study) have the option to complete a “pre-medical year” at university, lasting thirty weeks and including instruction in the areas of chemistry, biology, and physics (NHS Careers, 2004). Similarly, while a large majority of U.S. medical school applicants complete a science related undergraduate degree, those who do not have a substantial background in chemistry, physics, and biology also must complete this core academic preparation at either a community college, an accredited university, or through a structured “post-baccalaureate” program similar to the Scottish “pre-medical year.”

While Nigel may have originally pondered the idea of attending university in Scotland directly following his high school graduation, he may realistically need to consider obtaining an undergraduate degree prior to applying to a Scottish medical school in order to attain the necessary qualifications for entry, since the science courses he completed in his American high school do not correspond with the Scottish secondary standards. By gaining this necessary credential, however, Nigel will unavoidably find himself up against another challenge for admission. While an undergraduate degree and work experience can add strength to a U.S. medical school application, the time it takes an international student to complete this prerequisite can in turn become a detriment to a Scottish medical school application. Scottish medical schools claim to welcome applications from “mature students” who hold undergraduate degrees; however, they also acknowledge that “mature students will have a shorter length of service to offer the profession,” and many state clearly in their admission policy “that while there are no formal set age limits for entry to medical school, admissions will take account of the length of training in relation to the length of service the candidate could provide” (NHS Careers, 2004, p.1).

This imbalance between Scottish and international prerequisite coursework could be equalized within the application process by utilizing another means for gauging a student’s ability and preparedness for medical school. In the United States medical school admission is based on a variety of components, academics being just one. Another factor that is strongly weighed by American medical schools in their decision process is the student’s score on the MCAT, or the Medical College Admission Test. “The MCAT is a standardized, multiple-choice examination designed to assess problem solving, critical thinking, and writing skills in addition to the examinee’s knowledge of science concepts and principles prerequisite to the study of medicine. Scores are reported in the areas of verbal reasoning, physical sciences, biological sciences, and writing” (Association of American Medical Colleges [AAMC], 2006, p.1). A similar tool, titled the UKCAT or UK Clinical Aptitude Test, has been implemented just this

summer (2006) by a consortium of UK medical schools to ensure that the candidates selected for entry have the appropriate mental abilities, attitudes and professional behaviors required for new doctors to be successful in their clinical careers” (UKCAT Consortium, 2006, p.1). While the UKCAT differs from the MCAT in that it does not contain any premedical curriculum or science content, it does measure cognitive ability and other practical attributes that are considered valuable for future health care professionals, through tests of their verbal, quantitative, and abstract reasoning. Both the MCAT and the UKCAT could be effective mechanisms for gauging one’s readiness for medical school despite the origin of their academic upbringing. Scottish medical schools could accept American and other international students such as Nigel earlier in their careers if they were willing to give more weight to these indicators in their admissions decisions.

For Nigel, the inability to convey his corresponding ability or academic equivalency may not be the only obstacle that would prevent his acceptance into a Scottish medical school, in fact Nigel’s American origin alone could be a hindrance for entry, despite his otherwise strong application. Thus, it is important to examine the admission standards of the Scottish universities and consider the reasoning behind some of the stipulations and quotas in place to maintain a majority Scottish population within these specific programs. While international students such as Nigel may be interested in studying medicine in Scotland, they are less likely to remain in Scotland following the completion of their medical degree. An international student that is accepted at a Scottish medical school may complete their degree and one required practical postgraduate year in Scotland, but then could likely return to their country of origin to take any additional coursework or any examinations necessary for authorization to practice in an alternative geographical area. This is a concern for the Scottish parliament since a recent survey by the Federation of Royal Colleges of Physicians revealed that “Scotland needs another 400 consultants to cope with increasing patient levels” (B. Brady & R. Gray, 2005, p.1). Scotland is facing a developing aging population over the age of forty in combination with a decline in overall population growth. “An older population means more ill health and the reduction in new growth means there will be a smaller cohort of younger people from which to recruit medical staff” (K. Calman & M. Paulson-Ellis, 2004, p. 5). Therefore, the loss of a Scottish trained physician means the loss of an essential product and part of the Scottish health care maintenance system. In 2001 the Scottish Higher Education Funding Council allotted 900 places as the intake or admission target for the five Scottish medical schools combined. It was specified, “No more than 7.5% of these places could be used for students paying overseas fees, and the remainder would be funded by the Funding Council for home fee students, (which includes students from the rest of the European Union)” (K. Calman & M. Paulson-Ellis, 2004, p. 12). This decision was made after the results of a study following the 1988 Scottish medical cohort cited that graduates who were domiciled in Scotland at entry are 2.25 times more likely to be working in Scotland eleven years later than those domiciled elsewhere (K. Calman & M. Paulson-Ellis, 2004, p. 13). It is evident that Scotland’s growing need for physicians will not be met with adequate medical staff unless these admission guidelines are upheld, and the country’s medical schools continue to train and deliver a committed and long lasting supply of resident doctors.

This necessary apportionment does hold a wager for the Scottish education system however. While there is a clear need to maintain admission quotas in favor of domiciled students to assure that the larger needs of the Scottish society are met, it is also advantageous to

the Universities to accept international students as a means for collecting additional funds from their continually increasing non-domestic tuition rate. While Scottish citizens are entitled to a free higher education, courtesy of the Students Awards Agency for Scotland, visitors must pay a substantial cost to obtain a degree from a Scottish university. According to the Scottish Executive and Lifelong Learning Minister, Nicol Stephen, “under provision of the Further and Higher Education Act which passed in April, the 2006 university tuition cost for students outside Scotland is to rise to 1,700 pounds per year, which is an increase of 500 pounds since just last year, and for medical students in particular tuition will increase to around 2,700 pounds per year since the demand for spaces is already abundantly high” (BBC News, 2005, p.1). Regardless of this desirable monetary benefit, however, it is important for the Scottish universities to recognize that foreign students such as Nigel may also absorb a space in a program, a seat in a classroom, a practical or experiential placement, or a position in a lab that could otherwise be filled by an individual who plans to remain in Scotland following graduation, thus contributing to needs and advancement of the Scottish society. According to Mr. Stephens, “It is important to strike the right balance between protecting the interests of Scottish domiciled students, and to ensure that Scotland continues to be an attractive destination for all students” (BBC News, 2005, p.2).

Some practical strategies have been outlined by the Scottish executive in their comprehensive 2004 report, “Review of Basic Medical Education in Scotland,” for ensuring that a sufficient number of native-born candidates continue to sustain the medical school applicant pool in Scotland. The plan includes 1) developing initiatives to work with schools in disadvantaged areas to identify potential candidates early in their careers, followed by active mentoring and encouragement to keep these students on track, 2) developing foundation courses to bring able students with potential up to an appropriate standard for entry, and 3) building collaborative links with Further Education colleges whose existing programs traditionally prepare individuals to pursue health care roles such as nursing and medical technicians (K. Calman & M. Paulson-Ellis, 2004). Relaxed entry requirements and increased funding from the Department of Health and the Higher Education Funding Council for England to add more available places in the medical schools for native students have also been discussed as methods for meeting the country’s foreseen need of qualified physicians.

Because of the relatively small size of Scotland in comparison to the United States there are just five medical schools in operation. Aberdeen, Dundee, Edinburgh, and Glasgow provide full five-year courses for a medical degree, and St. Andrews currently provides a degree in Medical Science in three years, which is then followed by the clinical part of a medical degree, which is completed at another university, most frequently the University of Manchester in England (K. Calman & M. Paulson-Ellis, 2004). This manageable group of institutions allows for a unique collaboration and structure for benchmarking curriculum and assessment, distributing research, and assigning practical and experiential placements. While each university does exist independently, the Scottish Executive has made plans to develop a Board for Medical Education, which will oversee admissions, medical education, clinical skills training, and research for all five universities in order to strategically guarantee that “the medical schools work with each other to maximize the use of facilities and ensure a rational and equitable distribution between them” (K. Calman & M. Paulson-Ellis, 2004, p. 30). In the United States a similar board, The Association of American Medical Colleges (AAMC), is in place to manage the 125 MD-granting U.S. medical schools. The AAMC “strives to set a national agenda for medical

education, biomedical research, and health care by strengthening the quality of medical education and training and integrating these elements into the provision of healthcare” (AAMC, 2006, p.1). They do this by serving as a liaison between organizations such as the Electronic Residency Application Service (ERAS) or the National Resident Matching Program (NRMP) whose goals are to match students with valuable internship and residency placements and by providing services to applicants such as the American Medical College Application System, (AMCAS), which coordinates the country’s online medical school application process.

AMCAS manages the intake of all online student applications, combines this information with other essential components of the application, including the student’s score on the Medical College Admissions Test (MCAT), and disperses this information to the appropriate schools designated by the student. Similar to this American application system, admission to medical school in Scotland is coordinated by the UK College Application System, or UCAS, which is also a “centralized online system that processes applications for full time undergraduate courses at UK universities and colleges” (UK College Application System [UCAS], 2006, p.1). This comprehensive system will soon work with the Board for Medical Education in Scotland to ensure that overlap in both application and acceptance is not an impediment for the five Scottish medical schools. For Nigel his UCAS application will be reviewed and weighed by the Board’s administration, and his acceptance or denial will be based on an overall assessment of his aptitude and ability in correlation with the need and availability of placement for an international student such as himself. In contrast, because AMCAS is responsible for 125 U.S. medical schools, this type of thorough analysis and assignment of each individual student is less feasible and does not allow schools to correspond or strategize about each applicant.

If, after completing his necessary preliminary undergraduate work, Nigel was accepted at a Scottish medical school, he would follow the same education and training laid out for all doctors in the UK, leading to a Bachelor of Medicine and Surgery; and after completing this degree in medicine he would follow a supervised, structured one-year pre-registration period as a house officer in a general hospital before becoming a licensed physician. In the United States, Nigel would also complete a four-year medical degree following his undergraduate work, with his last two years spent in clinical rotation. Both paths would also require continuing education and professional development following this initial and basic medical education and training.

Medical schools such as the University of Glasgow and the University of Edinburgh rank highly world wide by making medical breakthroughs in research and clinical practice and by training and maintaining admired and respected faculty. While Nigel may face certain challenges in his attempt to secure acceptance at these schools, if admitted, he would receive a first rate education, acquire relevant experience, and would be recognized globally as a qualified physician. Nigel should continue to research the individual schools in both Scotland and America that he is interested in applying to and should also continue to stay current regarding the changing regulations and procedures for application in both countries. It would be in his best interest to speak with his high school guidance counselor about his interest in studying abroad, as well as consult with admissions representatives both in Scotland and in the U.S. to discuss his strategy and eligibility within each region.

Regardless of where Nigel ultimately ends up for medical school, there is a universal need for physicians, and either country would be fortunate to both prepare and maintain him within their education and healthcare systems. Nigel has an important year filled with many critical decisions in front of him, but the future holds great things for him and other promising young adults who have made the decision to pursue a career in medicine.

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