

# Choosing Medicine as a Career

Note: Much of the information here is taken from the Office for Career Services website.

## Why Medicine?

The career options in medicine are diverse: clinical practice, public and global health, community health, medical administration, health policy, teaching, research, and more. While the majority of Harvard students and alumni pursuing careers in the health field focus on human medicine (MD degree, allopathic medicine), a number of others will pursue related health fields such as dental medicine, veterinary medicine, nursing, and osteopathic medicine.

Being a doctor means you have the opportunity to make a difference in the lives of others, whether it is diagnosing and successfully treating a child with hemolytic uremic syndrome or conducting research on platelet activation or providing care to a terminally ill patient. The field of medicine changes rapidly, so physicians have to be lifelong learners and enjoy the intellectual challenge of science. The rewards of caring for others, contributing to research, and having flexible career options make this a very popular career choice for Harvard students. However, the path to becoming a doctor is long and rigorous, involving specific and demanding premedical course requirements, a long medical school application process, four years of basic science and clinical experiences in medical school, three to seven years of clinical training in residency (and often additional years as a fellow for certain subspecialties), and several licensing exams. Accordingly, the decision to become a physician should be made with a great deal of care and consideration.

In response to a projected shortage of physicians in the U.S., many medical schools have recently increased enrollment and several new medical schools have opened. Access to physicians in rural and certain urban areas is particularly limited, and the number of medical students selecting primary care does not meet patient demand. While the total number of medical graduates will increase, the application process to medical school and to medical residency training programs remains extremely competitive.

Medical schools seek applicants who have:

- Proven their mastery of science concepts and skills
- Tested their interest in medicine through medically related experiences
- Shown an ability to communicate effectively with patients and colleagues
- Demonstrated personal qualities such as compassion, integrity, and sensitivity

## Exploring the Field

The decision to become a doctor cannot be made in the classroom. You can begin to test your interest in medicine in a variety of ways, by shadowing physicians and by volunteering several hours a week in a health-care setting such as a pediatric hospital, a hospice program, or an AIDS-prevention program. Experience serving people in need is the best way to test your interest in clinical medicine and its interpersonal demands. Here are other suggestions:

- Visit the OCS Health and Medicine webpage for ideas on ways to gain volunteer and shadowing experience at a hospital or another clinical setting where you are able to interact with people directly.
- Consult with an OCS Premedical Advisor or another OCS Career Counselor regarding your career interests.
- Register with the OCS Health and Medicine listserv to receive emails about medical and health-related programs and opportunities.
- Become involved with student organizations on campus such as the Harvard Premedical Society. Get to know other students who are also interested in medicine.
- For sophomores and beyond, get to know your House Premed Tutor.
- Shadow people who have medical training and are working in the field. Contact people you know or use the Crimson Compass Alumni Network, accessible through the OCS website. (Crimson Compass is an online resource that puts you in touch with Harvard alumni and others who volunteer to provide career advice to students via email).

Many student groups at Harvard can help you explore your interest in medicine. These include:

- Harvard Premedical Society
- Harvard Society of Black Scientists and Engineers
- Harvard Latinos in Health Careers
- Harvard Global Health and AIDS Coalition

- Harvard Undergraduate Global Health Forum (HUGH Forum)
- Harvard Radcliffe Cancer Society
- College Diabetes Network
- Harvard Friends of the American Red Cross
- Foundation for International Medical Relief of Children
- Community Health Initiative
- Harvard College Health Policy Society
- Harvard Hippocratic Society
- Project Health
- Music in Hospitals and Nursing Homes Using Entertainment as Therapy (MIHNUET)
- Women in Science at Harvard Radcliffe

## Required Classes

Medical schools require students to take courses covering specific areas in the sciences and liberal arts. It is strongly recommended that applicants complete the following science coursework before taking the MCAT and before applying to medical school:

- General chemistry with lab (one year)
- Biology with lab (one year)
- Organic chemistry with lab (one year)
- General physics with lab (one year)
- English (one year)

Medical schools require that courses satisfying requirements are taken for a grade; pass/fail is not accepted. In addition, courses that are not listed as a Harvard departmental course cannot be used to meet medical school requirements. These include freshman seminars and core and general education courses. Many medical schools have additional requirements such as math, biochemistry, additional biology, and courses in the social sciences.

Each medical school sets its own requirements and rules regarding courses they will accept. Therefore, if in doubt about whether a course may be substituted for the basic premedical requirement, you are encouraged to check with the admission offices of the medical schools to which you may apply.

Many Harvard applicants complete their science premedical coursework while enrolled at the College but others take some or even all of their premedical requirements after they graduate. Infact, the majority of applicants to medical school in recent years have waited until their senior year and beyond, rather than their junior year, to apply to medical school. This allows students four years to fulfill the premedical requirements and also provides them an opportunity to pursue another one of their interests before medical school.

## Academic Performance

The first two years of medical school are typically called the “pre-clinical years” during which time students take a rigorous course load that includes histology, physiology, anatomy, pathology and other courses in the biomedical sciences. Therefore, applicants to medical school must demonstrate an ability to handle a science-intensive curriculum.

The first few years at Harvard involve getting used to a new setting, a new social and extra-curricular life, and new ways of learning and studying. To accommodate this period of transition, it is highly recommended that entering students do not overload their schedules with science courses, particularly if they have not had strong science preparation in high school.

While it is true that your science GPA is important, you should not feel discouraged from pursuing medicine if your first grades do not meet your expectations. Medical school admissions committees understand this and look with favor upon an upward trend in your record of academic performance. They also take into consideration factors such as high school science preparation.

In recent years, Harvard students were admitted to medical school with equal or lower GPAs than national applicants. In a typical year, the admissions rate for Harvard applicants is in the range of 80–90%, and greater than 90% of applicants with GPAs of 3.3 or above are admitted.

## Choosing a Concentration

There is no “premedical program” at Harvard. Contrary to popular belief, students who concentrate in one of the sciences do not have a better chance of being admitted to medical school. Applicants must demonstrate competency in science. However, medical schools do not require that you major in a science. Neither is it the case that students who concentrate in a non-science field will have an advantage by “looking different.”

The area of study that interests you the most and that you wish to explore extensively is the one you

can and should choose for your concentration. While it is important to know and fulfill the necessary requirements for admission to medical school, it is neither necessary nor preferable to commit yourself at this time to a tightly focused curriculum directed at pursuing this particular profession. Medical schools seek students who have pursued an academic area of interest in depth.

## **Public Service/Leadership**

Medical school admissions committees look to see that applicants have taken advantage of opportunities outside of the classroom that demonstrate leadership, teamwork, and other qualities essential for many of the roles that a physician must play. Many successfully admitted Harvard students have pursued a wide variety of activities, including those in athletics, public service, social and cultural involvement, and the arts.

There is no formula for the activities with which students must be involved in order to be competitive; deep involvement in a couple of areas is preferred over light participation in many. Each medical school develops its own criteria and priorities for admission, reflecting the goals of the respective school. For some medical schools, potential for service to an underserved community is very important; for other medical schools, a priority may be leadership qualities.

## **Taking the MCAT**

The Medical College Admission Test (MCAT) is required of all medical school applicants and consists of four sections: Biological Sciences, Verbal Reasoning, Physical Sciences, and a Writing Sample. Each of the first three sections are assigned a number score (ranging between 1 and 15) and the writing sample is assigned a letter score (ranging between J and T). Applicants should plan to take their premedical coursework prior to taking the MCAT and/or concurrently while studying for the test. While a number of students enroll in private review courses, these are not necessary in order to perform well on the MCAT. There are many print and web resources available without requiring enrollment in a review course. The MCAT is administered approximately 25 different times during a calendar year.

It is a good idea to give yourself at least 3-4 weeks before the MCAT to synthesize information and do practice tests. Hence, J-term and the summer breaks are very popular times to take the MCAT. Make sure to consult with your premed advisor before deciding when to take the exam.

## **Research Experience**

Contrary to popular belief, basic science research is not a requirement for all medical schools. In fact, many Harvard students continue on to medical school without working in a lab.

Successful medical school applicants have usually demonstrated the ability to pursue an area of study in depth, whether it is basic science research, clinical research, or a thesis in English literature. The experience of critically reviewing data does not necessarily have to occur in a basic science research lab. Medical schools are most concerned with students having a general orientation towards research regardless of the particular discipline. Having said this, Harvard offers wonderful opportunities for students to work in labs involved in cutting edge research. There are lots of ways to get involved in labs at the College as well as at Harvard Medical School. Students interested in possibly pursuing an MD/PhD degree should take advantage of these resources early in their Harvard careers.

## **Shadowing/Clinical Experience**

Medical schools look favorably on students who have tested their interest in medicine through community service or health-related activities. It is better for you to volunteer consistently over an extended period of time rather for short-term projects even if such projects are time-intensive. Although students are not able to administer medical care in most cases, there are many other opportunities for you to volunteer in settings involved in caring directly for people such as a homeless shelter, a community health clinic, or a pediatric oncology unit.

If you are interested in shadowing physicians in the Boston area, your best bet is to directly contact physicians in an area that you are interested in. In addition, many of Mather's nonresident tutors are practicing physicians and very interested in taking in students to shadow them.

## **Taking a Year Off**

Last year, 214 out of the 305 Harvard College medical school applicants were alumni. Taking a year off is an increasingly popular option, but applicants should strongly consider their options before deciding to take a year off.

You may continue to take advantage of the many resources available to you at OCS and Mather. If you are no longer in the Cambridge area, phone appointments with a [premedical adviser](#) can be arranged.

If you are planning to apply to medical or dental school soon, please contact your [House Premedical Tutor](#) as soon as possible, preferably by early spring of your application year, for assistance with the process. The House Tutors will write letters of support for alumni up to five years postgraduation, but they need adequate preparation time.

For more information on postbaccalaureate programs, go here:

<http://www.ocs.fas.harvard.edu/students/careers/medicine/alumni.htm>

## **International Students**

The application process and statistics for international students are different for US citizens and international students. Please consult OCS or your premed advisor for guidelines on applicant as an international student.

## **MD/PhD**

MD-PhD programs provide training in both medicine and research. They are specifically designed for men and women who want to become research physicians, also known as physician-investigators or physician-scientists. Graduates of MD-PhD programs often go on to become faculty members at medical schools, universities and research institutes such as the NIH. Regardless of where they eventually end up, MD-PhD trainees are being prepared for careers in which they will spend most of their time doing research, not just caring for patients. It is a busy, challenging and hugely rewarding career that offers opportunities to do good for many people by advancing knowledge, developing new treatments for diseases and pushing back the boundaries of the unknown.

Go to the following website for more information about MD/PhD Programs:

<http://www.ocs.fas.harvard.edu/students/careers/medicine/md-phd.htm>

## **Dentistry**

- Dentists may have a variety of responsibilities, including diagnosing and treating diseases and injuries of the teeth and mouth, improving cosmetic appearance, performing surgical procedures such as implants, educating patients to prevent oral disease, and teach and perform research.
- Over 80% are general practitioners while about 20% are dental specialists who limit their practices to one of the nine recognized dental specialty areas.
- Although most dentists work in private practice, they also work in academic medical centers, research institutions, public health agencies, hospitals, military installations, and other industries. (American Dental Association, Dentistry Fact Sheet)

Go to the following website for more information about careers in dentistry and the application process: <http://www.ocs.fas.harvard.edu/students/careers/medicine/dental.pdf>

## **Veterinary Medicine**

- Doctors of veterinary medicine play a significant role in the health care and welfare of animals as well as human public health, medical research, and public safety.
- Although most veterinarians work in private practice (approximately 75%), many others pursue a variety of careers including preventive medicine, regulatory or military veterinary medicine, laboratory animal medicine, research and development in industry, teaching and research, and public health. (Association of American Veterinary Medical Colleges, [www.aavmc.org](http://www.aavmc.org))

Go to the following website for more information about careers in veterinary medicine and the application process: <http://www.ocs.fas.harvard.edu/students/careers/medicine/vet.pdf>

## **Nursing**

Go to the following website for more information about careers in nursing and the application process: <http://www.ocs.fas.harvard.edu/students/careers/medicine/nursing.htm>