Preparing for and Applying to Medical School

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Preparing for and Applying to Medical School

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Note: *10 – Dec. 8, 2013 among 763 US licensed MDs, of whom 462 took the MCAT and used a fee-based course to prepare for it.
Preparing for Medical School

Introduction
This publication is intended to provide guidance in the process of preparing to enter the medical profession by obtaining the MD (allopathic) or DO (osteopathic) degree. It is designed to assist students who have made up their minds that medicine is the right career. While that decision should be based on considerable thought, self-evaluation and direct personal exploration of the field itself, no effort will be made here either to encourage or discourage the prospective applicant. It will be assumed that those intending to enter medicine will take the necessary steps to assure it is the correct decision. More will be said below about gaining medically related experience.

Preparing for medical school is not something to be taken lightly. For most, it will be demanding and difficult if one hopes to be a competitive candidate. Medical training is lengthy and challenging. The practice of medicine requires considerable effort and will have a major impact on the lifestyles of many of its practitioners. Again, a carefully considered decision is important.

In preparing for medical school it is important to remember what medical schools seek in applicants. One school puts it simply and directly: “Successful applicants tend to have strong academic records, firm and clear motivation as shown by work experience, activities and interests and outstanding personal qualities.” Using this statement as a general framework it is possible to consider medical school preparation in more specific terms.

Resources
The most valuable single source of information on preparing for allopathic medical schools is the MSAR (Medical School Admissions Requirements) database online maintained by the Association of American Medical Colleges (AAMC). Students can use the MSAR to confirm school-specific requirements. To view the MSAR online you need to purchase access to it from AAMC for a fee. See the AAMC website for details.

AAMC (http://www.aamc.org) is a key source of information about MD medical education and individual medical schools.

www.aacom.org is the key source for osteopathic medical education and individual DO medical schools.

Strong Academic Record
In this section the various factors which are associated with the strong academic record the schools seek will be described. They include course work, academic major, research, letters of evaluation, and the Medical College Admission Test (MCAT).

Advanced Placement
Medical school policy on AP credit differs, even among UC schools. Most medical schools DO NOT accept AP credit to fulfill a prerequisite course for their program. Those who wish to use AP credits in satisfaction of pre-med requirements should take additional coursework in that academic field to substantiate the credits and to prepare for the MCAT and medical school. For example, a student with an AP score which satisfies the reading and composition requirement usually will be well advised to take an upper division course with substantial reading and writing, e.g., an upper division English class. Again, school policy differs, and all-inclusive statements are difficult. Course work at Berkeley likely will be more rigorous than AP courses. Consult your major or college advisor as appropriate for questions concerning AP credits and major or college degree requirements.

Non-Science Requirements and Recommendations
Non-science requirements vary greatly from school to school and year to year. It is the applicant’s responsibility to consult the MSAR online and check individual school websites to confirm school-specific requirements. The following information below should serve as a general guide for non-science requirements.
English/Reading and Composition: Normally one year is required. However, some schools do not specifically require course work in this field. Most courses that satisfy the Reading and Composition requirement at Berkeley will fulfill medical school English coursework requirements. See a list of those courses at http://ls-advise.berkeley.edu/requirement/rcourses.html

If you're not able to enroll in a course listed on the above website choose an alternate course that has significant writing and reading in the English language. A safe bet is to choose a class in the English department or to choose a course that has the word “literature” in the title. Save your course syllabi to show medical schools if you need to prove you met their English requirements.

Foreign Language/American Cultures: A working knowledge of another language, Spanish, for example, is of great value in medicine and is strongly recommended. Coursework which increases insight into other cultures is helpful preparation for the medical school applicant.

Humanities, Social and Behavioral Sciences: Some schools require a specific number of units of non-science classes. As of 2015, there is a new Behavioral & Social Sciences section on the MCAT. Half the scores on the MCAT are reading and writing, so taking additional non-science courses will help students better prepare for the MCAT and broaden their understanding of social and behavioral patterns that are essential for a career in health and medicine. Students are advised to take the courses listed below:

- Psych 1 (for majors) OR Psych 2 (for non majors)
- AND Sociol 1
- AND MCB C61

Specific Science Requirements

Most schools require General & Organic Chemistry, Biology and Physics while Math, English and Biochemistry requirements vary by medical school. 2011 medical school Math, English, and Biochemistry requirements can be found on the Career Center website (https://career.berkeley.edu/ Medical/MedSchoolReqs.xlsx) for US allopathic medical schools.

The lists show the courses that are most commonly completed by UC Berkeley students to fulfill medical school prerequisites. It is the applicant’s responsibility to consult the MSAR online and check individual school websites to confirm school-specific requirements because they can vary from year to year. All of the prerequisite courses should be completed for a letter grade—do not take any of them P/NP. If you transferred to UC Berkeley from a community college, Assist.org can help you determine if the courses you took are equivalent to the courses listed below. If you choose to take courses other than those indicated below, keep your syllabi—you may need to send your syllabi to medical schools after you apply to make your case that the course(s) you completed fulfill their requirements. Each school is the final judge of its requirements.

Chemistry: Most medical schools require two semesters of general chemistry with lab, and 2 semesters of organic chemistry with lab. At Berkeley, several alternatives are available to satisfy the chemistry requirements. The most common chemistry sequences that students use to fulfill requirements are below:

- Chem 1A/1AL, 3A/3AL, 3B/3BL, MCB 102
- OR
- Chem 1A/1AL, 3A/3AL, 3B/3BL, MCB 100A/Chem C130
- OR
- Chem 1A/1AL, 3A/3AL, 3B/3BLT, Chem 135
- OR
- Chem 4A, 4B, 112A, 112B
- OR
- Chem 4A, 4B, 3A/L, 3B/L
- OR
- Chem 1A/1AL, 1B, 112A, 112B

While the Chem 1A/1AL, 3A/3AL, 3B/3BL, MCB 102 sequence is unique compared to other universities, it has been in place since 1991 and is accepted by the vast majority of medical schools. Most medical schools understand our sequence is unique and feel that the chemistry sequence adequately teaches concepts you will need to be successful in medical school. At least four semesters of chemistry (which may include biochemistry) must be completed. Most pre-meds begin general chemistry early in their Berkeley careers – often the first semester. Check with your academic advisor for chemistry courses to satisfy your major, if any. A few topics which may be on the MCAT have been included in Chemistry 1B, and may not be included in 3A, 3B. Some self-study of these topics may be necessary to fully prepare for the MCAT (see The Official Guide to the MCAT Exam available from the AAMC at www.aamc.org).

Some schools require biochemistry, and some of them will allow students to use MCB102, MCB 100A/Chem C130 to count as both biochemistry and organic chemistry. If you plan to apply to a school requiring biochemistry, take a fifth semester of chemistry to ensure you fulfill requirements.

Physics: Most schools require two semesters of physics with lab. Introductory calculus is the prerequisite to physics at Berkeley. Several alternatives are available to satisfy the physics requirements. The most common physics sequences that students use to fulfill requirements are below:

- Physics 8A, 8B
- OR
- Physics 7A, 7B
- OR
- Physics 7A, 8B
**Biology:** Most schools require two semesters of biology; a few require more (for example, UC Irvine requires one and a half years). Most medical schools expect that a year of biology with lab will be completed, no matter the applicant’s major or AP status. The most common biology sequence that students use to fulfill requirements are below:

- Bio 1B, 1A/1AL
- Bio 1B may be taken before 1A

**Mathematics:** Requirements vary greatly. Some schools require a year of calculus; others require some calculus and may accept statistics or computer science as partial satisfaction. At Berkeley, calculus is required for physics. AP credits probably will be accepted for at least part of the math requirement at some schools. Caution should be exercised before enrolling in 1B on the basis of AP credits alone. Being prepared is important. The most common math sequences that students use to fulfill requirements are below:

- Math 16A, 16B
- OR
- Math 1A, 1B
- OR
- Math 10A, 10B
- OR
- Math 1A, 16B
- OR
- Math 1B, 53
- OR
- Math 53, 54

**Other:** Some medical schools recommend or require advanced courses in the physical and biological sciences and mathematics, for example, biochemistry, developmental biology, genetics, molecular biology and physical chemistry. Refer to medical school websites or the MSAR online to check school requirements and recommended courses.

**Timing of Preparation**

The Medical College Admission Test (MCAT) is based in part on the basic pre-med requirements noted above. Having these courses completed at the time of the test is recommended. Usually, the test will be taken no later than April/May of the year that the applicant is applying, some 16 months prior to anticipated entrance. The 2012 AAMC MCAT Essentials guide states that July through September are peak testing times for the MCAT, which indicates that many students choose to take the MCAT some 24 to 26 months prior to anticipated entrance. Thus the timeline for applicants looking to start medical school in the Fall would look something like this below based on the average AAMC peak testing period:

- August 2016 – Start medical school
- June 2015 – Application year - apply to medical schools using AMCAS or other service
- April 2014 – May 2015 – Take MCAT (recommended latest date to take MCAT)

For many, the “ideal” path into medical school is to apply and be accepted into med school while still an undergrad, then to proceed directly into medical school following graduation. In reality, there are many timeframes and approaches to entering medical school. Some undergrads applying to medical school do so at the end of their junior year hoping to enter medical school the fall after their Berkeley graduation. However, the majority apply at the end of the senior year or just before the last semester at Cal. These people will be out of school a full year before they hope to enter. Any of these options is acceptable.

The medical schools do not care if an applicant has been out of school for a year or even longer as long as the person is a strong candidate. According to the AAMC the average age of matriculating applicants in 2010 was 23. Many who take time before applying to medical school have more opportunities to further validate their interest in medicine and strengthen their application through various post graduate experiences. You can also consider taking time off before applying to medical school and working for the Peace Corps, Teach for America, pursue a masters and of course, begin or continue to do research or volunteering in a clinical setting. There is no single path to medical school.
Preparing for & Applying to Medical School

A number of strong applicants have not done research. It is a mistake to pursue research unless there is a real interest in social sciences or humanities as well as the physical sciences. Research in the biological sciences because of their interests in relationship to medicine. While many Cal pre-meds pursue research need not be in any particular field or to have any direct relationship to medicine. While many Cal pre-meds pursue research in the biological sciences because of their interests in that field, others focus their research attention on topics in the social sciences or humanities as well as the physical sciences. It is a mistake to pursue research unless there is a real interest in doing so. A number of strong applicants have not done research but have stood out in other ways. Going to a lab out of a sense of obligation or in hopes it will somehow create a stronger application is likely to be counterproductive and be a source of frustration to student and research supervisor. Getting involved in research means taking on an obligation in terms of time and effort, therefore waiting until senior year is not a competitive strategy to obtain research experience. Nobody wants to train a student researcher only to have the newcomer put in half hearted efforts or quit after a short time.

Over the years, many Berkeley pre-meds have become deeply involved in research frequently devoting major effort to their projects. There are a number of methods available to locate research opportunities. The most direct is to identify a faculty member who is conducting research in an area of interest and after doing adequate preparation, approach that person and inquire about joining his/her research program. Academic departments have information on the research interests and publications of the members of their faculties. The “Research at Berkeley” website research.berkeley.edu provides many good leads to finding research on this campus and nearby research groups. Various student groups in MCB, hold information sessions on how to locate research opportunities. A number of medical and graduate schools conduct summer research program. Some of these are intended for minority students; others are open to all those interested. Many of these opportunities may be located through the Career Center’s website and at the Getting Experience for Pre-Med programs offered late in the Fall and again early each Spring semester. With the huge research program on the Berkeley campus, nearby institutions, and the private biotechnical industry any Cal student seriously interested in research should be able to find it.

Medical College Admission Test (MCAT)

With one or two exceptions, all US MD and DO schools require the MCAT. As of 2015 the MCAT will have the following four sections: Critical Analysis & Reasoning Skills (analyze, evaluate and apply information in prose passages from the humanities and social sciences); Biological & Biochemical Foundations of Living Systems (knowledge of basic concepts and facility with scientific problem solving in biology and biologically related chemistry); Chemical & Physical Foundations of Biological Systems (knowledge of basic concepts and facility with scientific problem solving in general and organic chemistry as well as biochemistry); and Psychological, Social & Biological Foundations of Behavior (examines knowledge and use of basic concepts in psychology, sociology, biology, research methods and statistics).

The MCAT is offered multiple times a year from late January through early September. It usually is advisable...
to take the MCAT during the months of April/May but no later than June of the year that you are applying (16-18 months before entrance). You may take the test in the months of July, August or September of the year that you are applying, however, taking the test during these months in the application year will make your application late for schools with rolling admissions, thus delaying serious consideration. There are exceptions to this rule, but for most applicants, taking the test in or after July during the application year is likely to harm your chances of acceptance at many schools. As previously stated, according to the AAMC many applicants choose to take the MCAT in the year before they apply to medical schools, some 24 to 26 months prior to anticipated entrance.

**MCAT 2015 Logistics**

- Total testing time will be approximately 7 ½ hours.
- Accommodated examinees with extra testing time will test over two or more days.
- Examinees who take the current version of the MCAT exam before it is retired will not necessarily be required to take the new version. The AAMC will continue to report scores from the current MCAT exam, along with scores from the new exam, for two to three AMCAS application cycles (i.e., AMCAS 2016 cycle to AMCAS 2017/2018 cycle), after which scores from the retired version of the MCAT will no longer be reported. Applicants should review the MSAR for each medical school’s policy for the oldest MCAT score considered in applications.

Additional information on the MCAT 2015 exam can be found at: https://www.aamc.org/students/applying/mcat/

Preparing for the MCAT is a matter of real concern to many pre-meds. While Cal students as a whole do very well on the MCAT as might be expected due to the rigor of Berkeley, most put considerable effort into preparation. The AAMC website discusses materials including retired exams that can be used to prepare. Applicants prepare in many ways. Opinion on the best method varies; it is very much a personal decision. Some review on their own using notes and textbooks and other study materials from their classes. Many take a commercial review course. Many find a review course helpful; others do not. For some, a review course provides a structure and organization upon which to prepare. A course also may provide an incentive to study and offer a form of discipline which some find helpful. The Career Center does not necessarily recommend a review course nor does it recommend any particular course.

Someone contemplating taking a course should compare the pros and cons of the various methods used, materials available, costs, etc., and then choose the one, if any, which best meets his or her learning style, schedule, budget, etc. It is very much an individual choice. No matter whether or not a course is taken careful and diligent preparation is necessary in most cases. Usually people taking the test in April or May will start to study right after the first of the year and put in many hours of preparation prior to the exam. Often, students take a lighter load during spring semester in order to have sufficient time to prepare.

Besides thoroughly learning the material in the basic pre-med classes upon which the science portions of the test are based, one of the best ways to prepare for the MCAT is to further develop or maintain a high level of reading speed and comprehension. The MCAT places considerable importance on reading rapidly and well. The Verbal Reasoning section in part contains material from the social sciences and humanities. If the years leading up to the test have contained few courses in non-sciences reading skills may suffer. Prospective MCAT takers should not ignore their reading skills as a month or two of study before the exam will not overcome years of neglect or inadequate attention. The schools consider the VR score to be important. A low score may seriously hurt even if the science scores are high. Medical students and future physicians need to be able to read well and to converse easily with faculty, colleagues, and patients.

While the MCAT is based on the basic pre-med classes, some believe that certain additional courses will help exam preparation. It should be noted that differences of opinion exist as to which, if any, additional course work is necessary. However, some feel that having taken a course like MCB 102 and a class in human physiology will be advantageous. Becoming familiar with the AAMC MCAT Content Outline in the “Preparing for the MCAT Exam” website will give the prospective test taker a good idea of the subject matter which may be included in the exam and allow for preparation throughout the undergraduate years.

The age of MCAT scores that are accepted varies from school to school. For most, scores can be two years old at the date of application. Each school indicates the acceptable age of scores in the MSAR online.

**Letters of Evaluation (Recommendation)**

Applying to medical school normally involves the submission of several letters of evaluation typically written by professors and others who have taught the applicant. While some schools do not specify from whom the letters should come, very often the applicant will be asked to submit two letters from science courses and one or more from non-science courses. In some cases, additional letters from research or volunteer supervisors may be appropriate. The number of letters that will be accepted will vary from school to school. Having three to five useful letters in one’s file is a good idea.
The medical schools usually seek letters from those who have taught and know the applicant well and thus can provide a comprehensive and thorough evaluation. A letter that only states that the applicant was in the professor’s class and received a specified grade is not helpful. Nor is a letter which says, “though I do not know ____ well,” or, “during a brief conversation concerning this letter,” very helpful. The schools can see the grade on the transcript. While large classes can make contact and thus a useful letter difficult, much can be done to establish a relationship that may result in the instructor being able to write a worthwhile letter. The key to a good letter is the establishment of a natural relationship between teacher and student focused on shared academic interests. In other words, the student must go beyond basic class obligations to demonstrate interest and competence in the subject matter of the course. Attending office hours on a regular basis to raise and discuss thoughtful questions about the material of the course is one of the most basic ways to give the instructor a chance to know a student, especially in a large class. It may be possible to take more than one course from a professor giving that person a chance to better know the student. Active and interested participation in class, as appropriate, is another way to allow an instructor to know a student. Many Cal pre-meds do research and thus establish a close relationship with their research supervisors that can lead to valuable letters of support.

As a general rule, it is better to have letters written by professors rather than GSIs. The reason for the “more senior the better” stance is that by virtue of experience the older person may be in a better position to evaluate the student and to compare the applicant to current and previous classes of students. GSIs often write fine letters and frequently write parts or all of letters which professors sign or co-sign. Having a GSIs letter co-signed by a professor adds to its strength, especially if the professor can add useful comments. It is better to have a strong letter from a GSI than a letter from a professor that says little or nothing. But, the temptation to feel that since it often is easier to get to know a GSI than a professor, it is perfectly acceptable to settle for GSI letters should be resisted. Some medical schools specifically state that they will only accept letters from professors—no lecturers or graduate students. Other admissions officers have told the Career Center that they prefer letters that provide new insight on the applicant, and with this in mind may prefer the more specific letter, even if from a GSI. Letters from family physicians, friends, political figures and the like usually are discouraged and may in fact be detrimental.

It is important to plan ahead and to give prospective letter writers plenty of time. Students are well advised to request letters at least one month in advance; however, it may take several months to get a letter written. It may be necessary to make one or more “gentle” reminders to get a letter written. The prospective letter writer should be consulted as to plans to be away from campus which might interfere with getting the letter prepared. Waiting too long to request a letter may result in the writer being on vacation, leave, ill or otherwise unavailable.

Requesting a letter should be taken seriously. Usually it is a good idea to make an appointment with the potential writer. It often is wise to furnish the writer with information including a transcript, resume, copies of papers, projects, etc., from the class, a draft of the personal statement and other records which will give the letter writer as much background information as possible. The objective is for a helpful letter to be written. It is a good idea to remind the writer of topics that might be included such as a project in the class, a particular interest demonstrated in the class, etc. In instances when the writer knows the applicant very well this may not be necessary, but in other cases it will be very important in the preparation of a good letter.

The Career Center offers a Letter Service where a file may be opened and letters collected and stored until they are sent AMCAS or ACOMAS for distribution to medical schools of the applicant’s choice. One of the benefits of using the Career Center’s Letter Service is that you can open a file and keep letters for up to five years. This service is useful for applicants who are planning to apply after graduating from Berkeley. You can ask your letters to be written while the writers know you well and submit the letters later. Alternately, you can ask your letter writers to submit your letters directly to AMCAS once you have created your accounts with these services. For those applying to Osteopathic medical schools, their centralized application service, ACOMAS, does not have a letter service. Therefore using the Career Center Letter Service would be helpful to applicants.

There are several ways you can have your letters sent to AMCAS. If you have a Career Center Letter Service account, you would have the Letter Service submit your letters to AMCAS during your application year. Your letter writers could also opt to upload letters directly to AMCAS through the AMCAS Letter Writer Application during your application year. Once your letters are submitted to AMCAS, you can select which letters to distribute to each medical school with your primary application.

If you are applying to one of the few schools that is not participating in the AMCAS Letter Service, follow the individual school’s guidelines of how to submit a letter.
Firm and Clear Motivation
Medical schools seek “helping, caring people who know what they are getting into” from having explored the field of health and medicine.

Experience in “helping”
While it is essential that a prospective medical student demonstrate that he or she is a helping, caring person, there are many ways to provide that evidence; it need not be limited to medically related activities. Many non-medical situations offer the pre-med an opportunity to serve others and thus demonstrate the helping and caring qualities desirable in a physician-trainee. Some tutor or work with children or senior citizens in a variety of educational or social service settings. Others show their caring through service as labor coaches or a similar activity in a medical setting. The setting is not the issue; the evidence of a service orientation is.

There are many ways to find opportunities to serve. The Career Center lists internships and jobs on its website. Some of these positions will offer a chance to provide service to others, e.g., a camp for children with cancer. The Cal Corps office in Eshleman Hall provides information on opportunities to serve through Calcorps. Stiles Hall at www.stiles.hall.org is another example of many sources of referral both on and off the campus.

Exploring the Field
Those applying to medical school will be expected to show that they “know what they are getting into.” In other words, that they have explored the field, know the role physicians play, and are clear on why they want to go into medicine. Such evidence should come during the years directly preceding application. For the college student, this should occur during undergraduate years and not be limited to high school.

As with demonstrating the caring nature noted above, it is possible to show that one has explored the field in a variety of ways and in a variety of settings. Although not required, some admissions officers strongly recommend that the pre-med arrange some sort of “shadowing” experience in which it is possible to closely observe a physician in action to become knowledgeable as to the role that person plays in the health field. “Candy striping” or similar activities are good and provide service to others, but in most instances, do not allow the volunteer to really gain an appreciation of the role of the physician and the pros and cons of a medical career unless the student uses that opportunity to develop a relationship that will lead to a shadowing experience. Similarly, having a physician parent is not enough. The student should actively explore the field on his/her own. If an applicant is interested in an osteopathic medical school (DO) it is essential to obtain experience with a DO to become clear on the philosophy of that branch of medicine.

There are many ways to locate opportunities to explore the field of medicine and health. Students will receive information about opportunities via the Health and Medicine CareerMail list, such as those offered during the Career Center Externship program in the Fall. In addition, students sometimes seek references from their own health providers, and other off-campus sources provide opportunities to get exposed to the realities of medicine. Examples are the Over 60 Health Center, Asian Health Services, Planned Parenthood, the ER at San Francisco General Hospital, the Berkeley Free Medical Clinic, and the Suitcase Clinic. Many pre-meds take the decal class Public Health 116 and then get involved in its Field Studies component in which the students shadow physicians as part of the Health and Medical Apprenticeship Program (HMAP).
Outstanding Personal Qualities

Medical schools seek applicants who have the personal traits desired in physicians. The schools tend to accept applicants who stand out in one or more ways. They have been active in some program or endeavor and often have been a leader or real contributor to some significant effort. There is no formula for this. Nor is there a list of “acceptable” fields in which to put one’s time and effort. Those accepted have been involved in activities ranging from athletics to volunteer work, from music to research. The list is long. The important thing is that they have demonstrated their abilities, that they stand out from other applicants in some significant way and that they possess the personal qualities such as leadership, endurance, creativity, perseverance, dedication, and intelligence which are believed necessary for a career in medicine.

How do these qualities come out in the application process? On the application there are opportunities to list and describe extracurricular activities, work experiences, internships, community service, etc. Further, the personal statement is another very important place where the schools can learn about the applicant. Letters of evaluation can provide important insights into an applicant’s character. Finally, in the interview the schools attempt to learn as much as possible about the applicant.

All of this should encourage the prospective applicant to pursue extracurricular activities of interest in real depth and with great enthusiasm. It is important that whatever is chosen to do is something of real interest. Doing something out of sense that it is what is expected or “the thing to do” is a real mistake. The pre-medical student should follow his or her own interests and desires with the admonition to do something in depth. Quantity of activity should not be equated with quality of activity. Filling the resume with lists of activities pursued half-heartedly or of empty titles is not the goal. Such efforts often are quite obvious to the admission officers and will not be valued.

10 Tips for Pre-Med Students

1. Major in the field which interests you the most while showing strength in the required science courses. Medical schools do not prefer any particular major.

2. Explore the medical field; be sure you know its positive and negative features and trends. You will need to show that you know “what you are getting into.”

3. Pursue in-depth, extra-curricular activities that interest you. Medical schools like interesting people. Leadership skills and the ability to work with others, particularly in our multicultural society, are valued. Know another language.

4. While grades are important, more than academic performance is considered. Grade trends are important; a less than spectacular year can be overcome.

5. You will need letters of evaluation from instructors and others who know you and your work well. These come best from people with whom you have a “natural relationship,” e.g., shared interest in academic and/or professional matters.

6. Develop the ability to read, write, and think. Only part of medicine is science. Good communication skills are important for physicians.

7. Pursue an academic interest in depth, e.g., research. However, the research need not be in science.

8. Develop your ability to talk comfortably with people considerably older than yourself. It is unlikely that interviews will be with your peers.


10. There are many paths to a career in medicine. People of different backgrounds, experiences, and ages, etc., all get there. Your interests may change over time. Remain flexible.
Preparing for & Applying to Medical School

Applying to Medical School

Apply Early, Wisely & Well
This section has been designed to assist in the lengthy and complex process of applying to medical school. In the following pages three important principles will be stressed. They are 1.) Apply early, 2.) apply wisely, and 3.) apply well. Adherence to these three principles will increase chances for success.

In general, medical schools seek the following characteristics in applicants:

- Strong academic records as shown by science, non-science, and overall grade point averages along with scores on the Medical College Admission Test (MCAT)
- Firm and clear motivation for a career in medicine as shown by activities and interests
- Personal qualities consistent with the demands and obligations of being a physician

These characteristics are evaluated from transcripts; MCAT score reports; letters of evaluation normally written by those who have taught the applicant; material contained in the application including information on educational, health care related, extra-curricular and community activities; and written personal statements and responses to essay questions and personal interviews.

Important Application Resources
Medical School Admissions Requirements: United States and Canada (MSAR) database is published online by the Association of American Medical Colleges (AAMC) and is the single best resource available to the pre-medical student interested in MD schools. Students can use the MSAR to confirm school-specific requirements. To view the MSAR database online you need to purchase access to it from AAMC for $15. See the AAMC website for details.

AMCAS, the American Medical College Application Service (the centralized web-based application service used by a majority of US MD schools) includes essential information including a worksheet to print out now and review months before preparing your actual application online. See www.aamc.org

The American Association of Colleges of Osteopathic Medicine has links to osteopathic (DO) schools and information on ACOMAS the DO centralized application service at www.aacom.org.

The Application Process
The actual process of applying to medical school begins some 14-15 months prior to entrance. Many students apply at the end of the junior year in order to enter medical school the fall after they receive their bachelor’s degree. Many apply at the end of the senior year or after one or more years following graduation giving them time out of school before beginning their medical studies. The schools do not mind if there is a break before entrance; the key issue is that when candidates apply they are ready and most qualified.

Steps for Applying to Medical School at a Glance

- Submission of a centralized application (for the vast majority of schools) which includes a list of health related, extracurricular and community activities, a written personal statement, a record of academic course work, letters of evaluation and a list of schools to which application is being made.
- Secondary applications which normally ask for an additional fee and additional written material.
- Interviews are conducted at medical schools to help determine candidates’ knowledge, maturity, preparation and aptitude for individual programs.
- By May 15th of the year of anticipated entrance, applicants are expected to accept one medical school offer.
Application Services
Most US medical schools use a centralized application service. 132 schools offering the MD degree use The American Medical College Application Service (AMCAS). The remaining medical schools have their own separate applications or in the case of some Texas schools, they use their own mini centralized service. DO schools use the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS).

AMCAS is only available as a web-based application at www.aamc.org.

AACOMAS provides the DO central application service at www.aacom.org.

AMCAS provides a Fee Assistance Program (FAP) for MCAT examinees and AMCAS applicants who would be unable to apply without it. Information is available at www.aamc.org. In order to receive FAP credit, applicants must have a FAP approval for the calendar year in which they submit their MCAT registration or AMCAS application. It is essential to apply for a fee waiver early so that an answer will be received prior to submission of an AMCAS application or registering for the MCAT. With a fee waiver it is possible to apply to 14 schools without an AMCAS fee.

Applying Early
Application deadlines typically vary by medical school. But generally fall between Oct 1 and Dec 15. The AMCAS application typically opens early in May, meaning that AMCAS begins accepting transcripts and letters of recommendation from applicants but applicants can’t submit the application yet. The first day AMCAS applications can be submitted is June 1. It generally is considered wise to submit the application by the middle of June. There is no need to send it June 1, but normally it will be helpful to have it in shortly thereafter.

Most schools use a system of rolling admissions under which applications are processed and reviewed as they become complete. The early completion of an application is considered an advantage to an applicant. Transcripts get lost, forms are mishandled, and servers lose power; things happen. The applicant suffers while delays take place. Thus the corollary to APPLY EARLY is the strong suggestion to monitor your application status throughout the application process.

By mid-June Spring Semester grades should be available allowing for a complete application. Spring grades do not need to be included in the AMCAS application. However, most Cal students do include their spring grades.

The Initial Application (AMCAS & AACOMAS)
The initial application contains questions that ask for biographical information on the applicant, educational history, extracurricular activities, community service, and work experience. Applicants will be asked for their entire college academic record, some sort of personal statement and an indication of which schools they wish to apply to through the service. These factors will be discussed in more detail in the following sections.

It is important to carefully read and follow instructions and ask for assistance if uncertain what to do. The Career Center pre-med counselors can be of assistance, and AMCAS, and AACOMAS, offers assistance both by telephone and via e-mail. An application should be submitted which reflects a serious candidate. It should look good, be accurate and complete and be well thought out.

On the AMCAS application students are given the opportunity to list up to 15 experiences (work, volunteer, extracurricular, research etc.) that played significant roles in their preparation for medical school. The important thing to remember when listing experiences is to mind quality over quantity. Sufficient detail should be provided in the experience descriptions so that the reader will appreciate the significance of the entries. While an admissions reader will know the meaning of Phi Beta Kappa, other awards or honors may only be known locally unless adequate explanation is offered.

Similarly, when listing post-secondary experiences include paid or volunteer experiences or internships and include action words early in the description of duties, as one might use in an extended resume. For example, just listing “lab helper” or “hospital volunteer” provides the reader little appreciation of what the person did. On the other hand, stating “Research Assistant, conducted independent research and presented results at end of summer seminar” is considerably more helpful. Being direct in your explanation of the experience is key to increasing insight into you by the admissions person. Lastly, applicants will be able to select up to 3 “most meaningful” experiences (out of the 15) so that they can expand upon why these experiences were more pivotal than the others.

Several questions routinely arise when filling out the Academic Record section of the AMCAS application. AMCAS uses the term credit hours. Credit hours
mean units in Berkeley terms. A 4-unit Cal course is a 4-credit hour AMCAS course. Confusion sometimes exists over how to designate courses that are entered on the academic record. In other words, which category should a course be labeled when completing the academic record on the AMCAS. The rule to follow is to use the content of the class and not the department name. Thus, a course in biological psychology could well be considered as Biology whereas a course in social psychology would be called “Other.” Consider which category the professor might use to describe the class in question.

There are really only two hard parts to the AMCAS application. Filling in the academic record is time consuming and calls for attention to detail; it isn't hard. The challenging parts are the one page Personal Statement, and the Designation Form on which the schools where the application is to be sent are listed.

The Personal Statement
For many, one of the major challenges in applying to medical school is writing the personal statement on the AMCAS application. Non-AMCAS schools and DO schools also require a personal statement or series of essays and it's slightly shorter than the AMCAS statement.

Applicants often ask about what question they are to address in the statement. Some answers are “Why do you want to be a doctor?” “How do you know?” “What experiences have you had that affirm medicine is the best field for you?” From these broad questions one may next ask about what schools are looking for in applicants. UCSF’s general but wonderful statement that “Successful applicants tend to have strong academic records; firm and clear motivation for medicine, which is manifested in their work experience, activities, or interests; and outstanding personal qualities” provides some guidance. What does this statement mean? The schools want good students—grades and scores. However, there is more to strong academic records than numbers. Intellectual abilities shown through research and other academic interests are examples. Firm and clear motivation means “a helping, caring person who knows what he or she is getting into from having explored the field.” The helping and caring can be shown in any number of ways and not just through medically related work. But, the schools want to know that applicants have explored their intended field. Outstanding personal qualities include the traits we look for in physicians such as stability, maturity, leadership, honesty, integrity, etc. The schools seek interesting and accomplished people whether they are athletes, musicians, leaders, poets, or artists and many others good at something worthwhile.

Keeping in mind what the schools are looking for, what is it that the applicant wants the school to know about him or her? What has the applicant done to fit the broad general framework of what the schools seek in candidates? The applicant should make notes and start to refine them. What is the evidence that the candidate is, for example, a helping and caring person? Note the word evidence. In the statement the applicant should write about what has been done in a manner which allows the reader to draw a conclusion about him or her. One would not want to say, “My volunteer work shows I am helping and caring.” The hope is that the experience will be described in such a way that the reader can draw that conclusion based upon the evidence which has been presented. It is not good to tell the reader what the evidence means. The goal is to show and not tell. Saying that the experience made you realize something is fine, but the applicant should not say what the evidence tells the admissions committee. The reader should draw the conclusion based upon the clear description of the situation which has been provided.

While an applicant could discuss only one topic in the personal statement, many applicants write about 3 or 4 topics. Too many topics will turn the statement into a list. Clearly then, the topics which are chosen to write about are very important and deserve considerable thought.

Here are some common problems we have noticed in a large number of statements:

- Often, applicants spend too many words and lines writing a lengthy introduction that may reveal little about them. Get right to the task of revealing you.
- A common approach is to describe an early interest in medicine resulting from an illness to a family member in which we learn all about the medical condition and how the applicant at age 6 felt helpless and determined to be a physician. The reader often learns little about the applicant using this approach. Rather than focus on the childhood event as a deciding factor, share what you’ve done that has helped you affirm that the field of medicine is right for you.
- Many start their statements with a quote. The admissions readers have seen them all before and may “roll their eyes” at many of them. “I took the road less traveled,” has probably been used many times.
- Don’t be vague—“My research project was challenging and rewarding.” What does that mean?
- Speaking of research—don’t write about it as you would in an abstract or science report. The readers care about the applicant and not that a certain cell responds in a certain way when exposed to something else and that this has implications for medicine. What can the reader learn about the applicant from the research experience? That is the purpose.
- Don’t tell the reader what physicians are or should be. The readers already know and are not looking to be told by the applicant. Again, the readers want to know how the applicant matches up with what they think is important in a physician (UCSF’s statement).
- The personal statement is all about you. The statement is not an essay on medicine or the state of the world.
Choosing Medical Schools

Choosing schools to which to send applications is at once important and difficult. While with sufficient money and effort it is possible to apply to all the schools, such actions would be foolish and wasteful. Thus, the WISE selection of schools is very important. Consideration of the following factors should make this important and difficult task more productive whether they are MD or DO schools.

1. Mission of the School: While most schools share the similar mission of producing graduates who will play a wide range of roles within medicine, some schools have specific objectives. For example, Stanford hopes to maximize a student’s opportunities to prepare for careers in research and teaching. Loma Linda looks for people with a strong commitment to “Christian principles.” The Uniformed Services School was founded to prepare physicians for careers in the uniformed services. Drew-UCLA is designed to attract those who wish to serve under-served populations. Be certain to examine the mission of the school so that applications will not be sent to schools with incompatible goals. Examine schools’ mission statements, the MSAR database online and individual school websites.

2. Academic Program: Examine the curriculum, grading practices (letter grades or P/NP) and other educational features of the school. For example, Chicago-Pritzker has a basically full-time faculty, while other schools often use volunteer faculty to teach parts of the clinical program. Case Western Reserve introduces clinical work and patients almost as soon as students arrive on campus. Yale, Tulane and other schools offer an MPH along with the medical degree. Many schools have opportunities to obtain Ph.D.’s in a few or wide variety of fields.

3. Curriculum: Some schools offer several instructional tracks from which to choose. Increasingly schools are using a problem-oriented curriculum, while others employ a “traditional” curriculum (i.e., two years of basic science and two years of clinical work), while others employ the organ system approach into which material is integrated. Consider the educational program when choosing schools. Consult the MSAR database online and each medical school’s website.

4. Residency Restrictions: Many public schools sharply limit out-of-state residents however restrictions can change over time. It is important to know what percentage of out-of-state students medical schools accept. According to the MSAR online database over 70 percent of matriculants to the University of Colorado Denver are Colorado residents. LSU in New Orleans has not accepted an out-of-state student in many years. A block away, Tulane has no residency restrictions on applicants. There is a limited number of schools that accept international students. Again, carefully consider the selection factors section in MSAR online when choosing schools.

5. GPA and Test Score Selection Factors: Consult the MSAR online for information on GPA and MCAT ranges accepted by each school. For example, many Cal students want to go to a UC medical school; yet the average GPA and MCAT scores of admitted students to these schools are very high. Only very strong applicants will be accepted. Applicants should look carefully at the degree of selectivity and apply wisely. All US schools are good. Most candidates should apply to a wide range of schools. Look at all parts of the country, and don’t be “California Compulsive.” Some fail to get into medical schools because they limit their applications too narrowly.

6. Ranking: There are no authoritative ranking systems of medical schools; students should not put great faith in lists that claim to rank schools in numerical order. As noted above, schools have different missions. It helps to graduate from a school which is well known for producing well-trained physicians, especially if applying for very prestigious residencies. Yet, graduates of most medical schools are able to obtain residency positions they seek. Consider a school’s reputation, but also examine its basis and what it means. Because all US schools are good, don’t be overly concerned with status. Your “fit” at a school is the most important thing. Most people do not pick a physician based on which medical school he or she attended.

7. Cost: Many public schools are comparatively inexpensive. Private schools’ tuitions average about $43,791, with many considerably higher. Some applicants don’t want to take on high debt loads; others accept large debt to be repaid over many years. Some obtain military or other scholarships. Financial information for each school is provided on the MSAR online. Attending medical school can be very expensive.
8. Admissions Options: Under the Early Decision Program (EDP), an applicant applies to only one school, receives a decision by October 1, and is obligated to enroll if admitted. Normally, only strong applicants to the school of first choice should choose this option. Only certain schools offer this plan (see MSAR online). Other schools offer tentative admission to new college freshmen (see MSAR online). Nationally, the average applicant applies to 12 schools. Typically, Cal students apply to 18-20 schools, but the exact number varies considerably. While some apply to more than 30 schools, the indiscriminate sending of applications is usually ineffective.

9. Location and Surroundings: Certainly a school’s location and surroundings will play a part in determining an applicant’s interest. Safety, availability of housing, cultural diversity of the surrounding community, recreational opportunities, transportation and climate are all considerations. However, we in the Bay Area can be spoiled by our advantages. For example, housing is much less expensive in many other locations. Candidates should not let stereotypes unduly limit their opportunities for a medical education.

It is impossible to predict precisely which applicants will be accepted at any particular medical school. More than grades and scores are involved; subjective judgments are made. However, a wise consideration of the factors listed above will help medical school applicants make more informed decisions.

The Secondary Application
Schools which use a centralized application as their initial application step commonly use some sort of secondary application to gather additional information which will enable them to narrow the applicant pool down for further consideration. Secondary applications may start to be received some 4-6 weeks after the submission of the initial application. In a few cases, requests may come sooner; in some cases they will come many weeks or months later. Each medical school does the application process on their own schedule.

Secondary applications normally contain several parts. First, usually there is a fee required when submitting the secondary. The MSAR online indicates the amount each school charges. It may be possible to obtain a fee waiver for the secondary fee particularly if an AMCAS fee waiver was granted. In other cases, a fee waiver may be granted upon request.

The second common factor is the requirement for additional written material in the form of easily provided information or in the case of a number of secondaries, of thoughtful answers to difficult questions or the writing of a revealing autobiography. The initial centralized application may be thought of as the beginning of a jigsaw puzzle whose completion will reveal a comprehensive picture of the applicant. The secondary application is intended to add more “pieces” to the puzzle and thus shed more light on the applicant’s qualifications. Here the admonition to APPLY WELL again is critical as while, as with the preliminary application, APPLYING EARLY is helpful, it is important to do a thorough and thoughtful job of completing the secondary applications. The secondary applications should be returned just as rapidly as possible consistent with doing them WELL.

Interviews
Almost all medical schools interview candidates. As noted in the timeline on page 19, interviewing begins in the early fall and will continue into spring. The heaviest interviewing time is late fall and early winter; after that, it slows down considerably as schools attempt to fill their classes by May. Interviews normally play a major role in determining who will be admitted and thus should be taken seriously. In most cases, interviews are held at the school with the candidate covering associated costs.

Medical school interviews come in many forms. Schools may interview an applicant in either an “open” or “blind” format. In an open format, the interviewer has read the applicant’s application before the interview and may even have the application available during the interview. In a “blind” format, the interviewer usually has no information on an applicant other than their name, school and maybe other very basic demographic information. They have not had the opportunity to read the personal statement or letters of recommendation.

Medical school interviews are typically comprised of one interview with a current medical student and one interview with a faculty member. There can be variations to this such as interviewing with only one faculty or two faculty members. Other schools may have a panel interviewing an applicant. Some schools have begun conducting Multiple Mini Interviews (MMI), which is a series of short structured interview stations.

The MMI involves a series of encounters meant to examine aspiring doctors’ ability to communicate, think on their feet and work in teams. Candidates rotate through several stations with one interviewer at each station and each interview lasting approximately 8 minutes. For information regarding interviews, you can look up the specific school in the MSAR online to confirm the interview format for that school.

In preparing for an interview it is important to remember what the schools are seeking in applicants and to prepare accordingly. The schools want strong students who are firmly and clearly motivated to be physicians from having explored the field, and people who possess the kinds of personal characteristics we desire in those who care for our health. Thus, the candidate preparing for an interview should thoughtfully consider how he or she meets what the
schools are seeking and then get prepared to discuss past experiences which demonstrate what he or she has to offer that meets those expectations.

In the case of an MMI interview students may want to practice by strategizing how they would answer the types of situational questions they may face. Generally the situational questions posed in an MMI touch on the following areas: ethical decision-making, critical thinking, communication skills and societal health issues. Schools are trying to assess non-cognitive qualities including cultural sensitivity, maturity, teamwork, empathy, and communication skills. Listening carefully and understanding the question will help the interviewee answer each prompt appropriately and within the allotted time frame. There are no right or wrong answers to the questions posed in a MMI, but each applicant should consider the question from a variety of perspectives. Scheduling mock interviews with the Career Center pre-med counselors can help with preparation for the MMI as well as with traditional medical school interviews. The Career Center provides programs every Fall semester on interviewing for medical school. See the Callisto Event Calendar for dates and times. Additionally students can book mock interview appointments with the pre-med counselors through Callisto.

Honesty in the Application Process

The practice of medicine demands absolute honesty. So too does application to medical school. Usually, at the end of the application there is a place for the applicant to sign signifying that what has been submitted is complete and truthful. This is not to be taken lightly, for AMCAS and other application systems or schools investigate “irregularities”. School personnel examine transcripts and letters closely to guarantee authenticity of documents. Candidates have been and will continue to be disqualified for submitting forged letters, “forgetting” certain transcripts, making false claims, etc., and may forever lose their opportunity to enter a US medical school.

Applying for Joint Programs

A number of Berkeley applicants are interested in one of the joint programs offered in conjunction with the MD degree. These include MD/MPH (Master of Public Health), MD/PhD (for those interested in becoming physician scientists), and MD/MBA (for those interested in being trained in management as well as medicine). Other joint programs such as MD/JD (for those who want to be trained as lawyers as well as physicians) are noted in the MSAR online.

While it often is possible to enter a joint program after initial enrollment in medical school, many will want to apply for it in conjunction with the application to medical school. Normally, following receipt of the initial AMCAS application the MD schools will provide instruction on how to apply for joint degree programs.

The non-MD portion of the joint program will desire or require the qualifications, for example, research experience, appropriate for training in that field. It may be necessary to take another admissions test to enter the joint program, for example, the LSAT for the joint MD/JD program. In other cases, such as in most MD/PhD programs, it normally is not necessary to take the Graduate Record Exam (GRE). As with all admissions matters, practices vary from school to school.

Because of the substantial interest shown by Berkeley students in MD/PhD programs the following information is provided:

Those applying for MD/PhD programs should have a sincere interest in research and a career in biomedical research. They should be interested in studying mechanisms and have the patience and desire required to study fundamental problems. The purpose is not to make a better MD or to train people for clinical research; the latter can be done by an MD, often with some years of advanced training such as a fellowship. MD/PhD programs hope to train the next generation of medical school faculty and researchers in biomedicine.

Students should evaluate the type of research being carried out at specific schools and see how they “fit” into the educational and academic environments of the programs they are considering. The programs—as do other graduate departments—publish catalogs listing their faculty and research interests. Interview visits (often several visits are made to the schools under serious consideration) provide opportunities to explore and evaluate the programs in greater depth. Applicants should consider the integration of the program’s elements and the state of faculty/student relationships.
Normally, MD/PhD students are chosen without regard to the state of residency. While successful applicants have strong grades and scores, research potential and interest are critical. A student’s grades and scores are weighed in light of the research background and the undergraduate school attended. The notion that only those with perfect scores and grades are chosen is false. Strong students with the desire for research should apply. Of course, some schools are more competitive than others and their “numbers” will be high. In most cases, the applicants must be accepted by both the medical school admission committee and the MD/PhD program.

If a student is uncertain about making a commitment to an MD/PhD program and a research career, it often is possible to enter the program after one or more years in the medical school. By doing research rotations, using summers to “catch up” and gain faculty endorsement, it may be possible to join the joint MD/PhD program and to receive funding at least for the graduate school years. It should be noted that many in academic medicine do not have a PhD, but received their research training through one or more fellowships following their MD.

MD/PhD programs differ in size, ranging from two students per year to classes of about 20. They also differ in the range of fields in which the PhD can be obtained as well as their organization, rigor, funding, and quality. Applicants should carefully examine how well the programs they are considering are organized and determine the levels of support and articulation between the segments of training, etc. Applicants should ask lots of questions and be very satisfied that the program is indeed the place to be for 7 – 10 years.

Post-Baccalaureate & Other Options

Many people desire to complete some or all of the pre-medical requirements after obtaining a bachelor’s degree. Others need to improve their credentials in order to become more competitive applicants. There are a number of ways to achieve either of these goals.

Those needing some or all of the pre-med classes—e.g., a history major who later decides to try for medicine—normally will look for a “post-baccalaureate program” (post-bac). A national list of these programs is available at www.aamc.org. Some of the “programs” are formal and structured with offices and support programs; others only provide a way to register for classes. Eligibility varies from program to program and each is organized with a specific kind of student in mind. Many programs are competitive and students will need to go through an application process to get into the program. Berkeley has a “post-bac” program, but it may also be possible to enroll in certain regular Berkeley courses through concurrent enrollment offered by University Extension providing that you only need to take one to three pre-requisites. Check to see that the courses you wish to take are available in this manner; some lower division classes (such as Chemistry and Biology) are impacted and thus may not be open. Summer Session at Berkeley offers an opportunity to complete many of the basic pre-medical requirements.

It is not recommended to take prerequisite courses at the community college level. Transferring from a two-year college to a four-year is an accepted and approved route for a pre-med undergraduate, but going back to the two-year level after getting your degree is frowned upon by many medical schools. Attend four year universities for post-bac work, even if you aren’t involved in a degree program.

In this highly competitive period of medical school admissions, many will need to improve their academic records, especially in science, to become stronger applicants. Again, there are a number of ways to do this. Some schools offer programs specifically designed for traditionally underrepresented applicants. Some students will do a post-bac program to take more upper-division science courses (such as cell biology, developmental biology, genetics). For others, a graduate-level program may be more appropriate, especially if the applicant has an undergraduate degree in science. A traditional graduate program in biology or some more specialized area of biology may be very appropriate.

One thing to keep in mind when considering graduate programs to help boost your GPA is that medical school admissions committees look more favorably upon graduate programs that have courses that cover the same areas as pre-requisite courses that an applicant would need to get into medical school. For example, if a student received a low grade in organic chemistry and is considering a graduate program, then it would be beneficial to the student to consider graduate programs that incorporate elements of organic chemistry so as to prove to admissions committees that they have truly mastered the subject matter.

At some CSU campuses it may be possible to enroll as a non-degree seeking graduate student (unclassified) and take undergraduate science courses. Others will do a Masters in Public Health (MPH) degree. Others will enroll in a program at or related to one of the medical schools. In some of these latter programs the students take courses along with the first-year medical school class. If they do very well, they may get accepted to that school or elsewhere. Programs of this latter type exist at Boston University, Chicago Medical School, Georgetown, Hahnemann and Tulane.

When considering your options, the following guidelines may help. People improve their records in a number of ways; often there isn’t just one way. Some formal structured programs may be good “feeders” into their own medical schools. In other cases, all that is needed is an opportunity to take classes and prove one’s ability in an unstructured program. A smaller campus may provide a more hospitable
atmosphere. A large campus may offer a more extensive program of courses. Normally, most of the work should be completed at a four-year school in order to show strength in upper-division classes. Reputation of the school at which the work is taken is important. Usually, one should take as much of a full load of classes as possible (medical school is a very heavy academic program). The courses taken should be rigorous so that those evaluating the transcript will respect them. The academic work undertaken should be done very well if it is to make a difference. Address the weaknesses in your application. If grades and/or MCAT scores are the problem, do something positive about them. Normally, more volunteer experience or a job won't overcome numbers—only better numbers will. If the science GPA is a problem, will the graduate-level program allow for taking more solid advanced-level science courses?

Realistically evaluate your situation. If grades have been a problem in the past, what are the chances they will be significantly better in the future? More than hope is necessary. Many are able to make a significant improvement in their records and reverse a slow start. Others are not. Are you prepared to work very hard, while realizing that admission is still uncertain? Remember, too, that grades and MCAT scores are not all that are considered in admissions decisions. Evidence of interest in serving others as a physician and other personal qualities are important factors in determining who is admitted.

Applying for Financial Aid
Medical education has become very expensive with the median cost of tuition at a private school now about $44,000 per year. With living expenses the total yearly cost of attending a private medical school will be well over $50,000 a year. While the cost of a UC school will be much lower, it must be remembered that many California applicants eventually attend an out-of-state private school. UC schools are very competitive and thus only very strong applicants tend to be admitted.

Undergraduates should make every effort to maintain an excellent financial credit history so that they will be able to borrow as medical students. In recent years some accepted applicants have had their acceptances revoked because it was found they were not eligible for loans because of a poor credit history. Medical school financial aid officers often recommend that undergraduates tightly control or eliminate their use of credit cards in order to reduce the temptation to spend and as a result get into debt problems which may result in a credit record which will prevent borrowing at a later date.

Undergraduates should discuss with their families how medical school would be financed. While loans and other forms of financial aid are available (see the AAMC website), the schools frequently look to the family to help with the costs of medical education. Medical students are considered graduate students and thus independent for government loans. Nonetheless, many schools will ask for financial records from parents and use the information obtained in awarding funds. Even if the medical student’s parents are no longer financially supporting the student, the medical school financial aid office often will require information about the financial status of parents and consider this when designing financial aid packages.

Many medical school graduates will have accumulated very sizable debt levels. In 2010, the median resident salary ranged from $46,717 to $52,599 (AAMC, Medical Student Education: Costs, Debt, and Loan Repayment Facts). While they will be receiving a salary of over $46,000 a year as residents and may be able to begin to repay their loans, many will have long years of paying back loans while also hoping to begin family life, buy a house, raise children, etc. A sober and realistic consideration of the financial obligations of attending medical school and then paying back loans is something each prospective medical student should undertake.

See the Financing Your Medical Education section of the AAMC website (https://www.aamc.org/students/financing/) for a discussion of financial aid for medical school including a description of the most common sources of aid. Normally, the first step is to submit a FASFA (Free Application for Student Financial Aid) available at the Financial Aid Office in Sproul Hall. This document, which may be filed after January 1, enables a determination of the applicant’s level of need in meeting medical school costs. The individual schools use the results of this determination in awarding financial aid to those they accept.

Following are some helpful financial aid websites:
-The Financial Aid Information Page www.finaid.org/
-US Department of Education www.ed.gov/offices/OSFAP/Students/
-Also see www.aamc.org and www.aacom.org
Minority Students

For many years, medical schools in the United States have been working to increase the number of physicians who come from groups that traditionally have been underrepresented in medicine. The Association of American Medical Colleges defines underrepresented groups as those traditionally underrepresented in medicine and includes African-American, Mexican-American, American Indian, Mainland Puerto Rican, and low-income individuals within this definition. The Student Life section of the MSAR online and the AAMC’s website has a Medical Minority Applicant Registry (Med-MAR) section that contains valuable information for the minority student, explains how an applicant may self identify, and provides the names of minority contact officers at each MD school. Several of the schools have major goals of providing health care to underrepresented populations. These include but are not limited to Howard, Meharry, Morehouse, Drew-UCLA, etc. See each school’s diversity section of MSAR online and the www.aamc.org website.

When applying to medical school using the AMCAS system it is possible to indicate that one desires to be considered as a disadvantaged applicant and to self describe race or ethnicity. The personal statement provides an opportunity to describe, in addition to the other factors noted above in the section on writing the statement, the applicant’s past history, challenges, and accomplishments.

In the secondary application schools may ask for additional information on disadvantages faced by applicants. Such questions should be answered thoroughly so that the schools may clearly understand the applicant’s background.

Various student clubs exist which focus on the needs and interests of minority pre-medical students. Many student groups post notices of their activities through the Career Center Health & Medicine CareerMail or through the Biology departments.

Summer enrichment programs exist at many medical schools and other graduate schools that are designed to assist minority students prepare for medical school. These programs vary in a number of ways but often include academic enrichment, clinical experiences, research opportunities, and study skills instruction. Information about these programs can be obtained via the Health & Medicine CareerMail and the MSAR online. Application deadlines for many enrichment programs often come in February and March. Letters of Recommendation are frequently required.

Foreign Medical Schools

There are very good medical schools in other countries. There also are some which knowledgeable observers describe as very inadequate. Some schools are very competitive or do not accept foreigners. Others will accept almost anyone willing to pay the tuition. Some have good records when their graduates take the exams necessary to practice in the US; others have very poor records. Be extremely cautious with foreign schools that have less than a proven record of success.

While currently there are more residency positions in the US than can be filled by graduates of US schools, it is projected that in the future the number of residency positions will decrease and become much closer to the number of graduates of US schools. If and when this occurs, American graduates of non-US schools are expected to be at a severe disadvantage.

For graduates of foreign medical schools, the Educational Commission for Foreign Medical Graduates (ECFMG) is an organization that assists in assessing whether international medical graduates are ready to enter residency or fellowship programs in the United States. See http://www.ecfmg.org/index.html for more information.
Career Center Resources

Health & Medicine CareerMail
By signing up for the Health & Medicine CareerMail through Callisto on the Career Center website pre-med/pre-health students will receive information and announcements of coming programs and visits by medical school representatives.

Interview Preparation Programs
Each fall a series of programs will help prepare current and future applicants for the medical school interviewing process. “Preparing for Medical School Interviews” and the Fall semester Mock Interview Service are especially designed for seniors involved in the application process. Additionally applicants can sign up for mock interviews with pre-med counselors.

Fall Programs for Pre-Med Students
Fall workshops are aimed at specific groups preparing for medical school. A series of sessions specifically for freshmen provide essential information for preparing for medical school. For sophomores and juniors, several programs are offered to assist with aspects of the pre-application process from obtaining research experience to MCAT prep tips, these workshops provide the newest information and tips on being ready to apply to medical school.

Spring Programs for Pre-Med Students
Spring programs will emphasize the application process. Any student anticipating application in the next few years is welcome to attend various application workshops held every spring. Topics include obtaining letters of recommendation, what to expect on the AMCAS application, and writing your statement for medical school. Additionally the Getting Summer Experience program helps students prepare for an interesting summer experience.

Advising
The Career Center has three dedicated Pre-med/Pre-health counselors that can provide guidance on preparing for medical school, the advisability of applying to medical school and the application process. Additionally the pre-med counselors can help students with strategy for the personal statement but cannot help with edits or grammar.

While the Career Center does offer personal statement workshops in the Spring, we highly suggest that students have their statements reviewed by their letter of recommendation writers, and other friends, family members or peers who know their stories well and possess excellent writing skills.

Students have two options for pre-med counseling:
• 30-minute pre-med/pre-health appts at the Career Center
• Pre-Health Tuesday Drop ins at VLSB rm 3060 (students can sign up on a first come first serve basis

Resources and other materials
Many additional resources are on the Career Center website including:
• Comprehensive web pages on preparing and applying to medical school
• Online workshops on topics including: writing statements, and medical school application essentials
• Quick clip videos on topics including interviewing at medical schools and letters of recommendation

Additionally printed resources such as The Official Guide to the MCAT Exam, Pre-Med Post Baccalaureate Programs and other publications are available in the Career Center library.

More Programs for Pre Meds
The Graduate School Fair held early in the month of October includes graduate and professional degree programs with an emphasis in health. Every year medical schools and post-baccalaureate program representatives attend.

Medical School Admissions representatives visit Cal to meet you, the potential applicant. Keep an eye on Callisto and the Health & Medicine CareerMail for news of these events.

The Externship Program offers opportunities for current Cal students to spend time with Cal alumni who are working professionals. This program may include a day or a week of your time during the Winter break. Every year health professionals let you shadow them and participating develops your networking and interviewing skills.

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## Timeline for Medical School Applicants

<table>
<thead>
<tr>
<th>2-3 Years Before Applying</th>
<th>THE YEAR BEFORE APPLYING</th>
<th>APPLICATION YEAR</th>
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<tbody>
<tr>
<td><strong>Attend various medical school admissions &amp; applications workshops (check the Events page in Callisto regularly).</strong></td>
<td><strong>Summer</strong></td>
<td><strong>May</strong></td>
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<td><strong>Sign up for the Health &amp; Medicine CareerMail.</strong></td>
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<td><strong>AMCAS, AACOMAS &amp; TMDSAS Applications open early in May – begin filling out applications.</strong></td>
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<td><strong>Participate in volunteer, work or extracurricular activities that interest you.</strong></td>
<td><strong>Fall</strong></td>
<td><strong>June</strong> (1 yr before Med School)</td>
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<td><strong>Focus on academics to maintain a strong GPA, take prerequisite courses.</strong></td>
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<td><strong>Submit application to medical schools using AMCAS, TMDSAS, or AACOMAS.</strong></td>
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<td><strong>Cultivate relationships with professors who could write strong letters of recommendation.</strong></td>
<td><strong>Winter/Spring</strong></td>
<td><strong>July - August</strong></td>
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<td><strong>AMCAS is in the process of verifying primary applications.</strong></td>
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<td><strong>Medical schools begin sending out secondary applications (through September).</strong></td>
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<td><strong>August - December</strong></td>
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<td><strong>Medical schools are interviewing applicants.</strong></td>
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<td><strong>Prepare for interviews by scheduling a mock interview with the Career Center Mock Interview Consultant and/or Pre-med counselors, in addition to practicing with friends and family.</strong></td>
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<td><strong>October</strong></td>
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<td><strong>Beginning of admissions offers to applicants.</strong></td>
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<td><strong>Primary applications final deadlines (serious applicants apply in June, well before this deadline).</strong></td>
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<td><strong>January - March</strong></td>
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<td><strong>Interviews continue.</strong></td>
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<td><strong>Admissions offers continue.</strong></td>
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<td><strong>April</strong></td>
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<td><strong>April 15th offer acceptance deadline for medical schools that start on June 30th.</strong></td>
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<td><strong>Admissions offers continue.</strong></td>
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<td><strong>May</strong></td>
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<td><strong>May 15th offer acceptance deadline for medical schools that start in August.</strong></td>
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<td><strong>June - August</strong></td>
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<td><strong>Active waitlist class filled.</strong></td>
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<td><strong>Start medical school.</strong></td>
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Pre-Medical Checklist

What the Schools Seek in Applicants

- Demonstrated mastery of the basic pre-medical science requirements.
- Demonstrated broad and active exposure to the healthcare field, excellent communication skills, highly developed critical thinking & ethical decision-making skills.
- Maintained or further developed my ability to read rapidly and understand sophisticated material in the sciences, behavioral and social sciences.
- Demonstrated academic potential, that I am likely to be a lifelong learner, and have shown “mature and independent scholarship”, etc.
- Established a relationship with at least three faculty members who know me well enough to write me a comprehensive letter of evaluation.

Strong Academic Record

- Demonstrated a history of caring deeply about my fellow human beings and their welfare.
- Demonstrated that I know “what I am getting into,” i.e., I understand the role of a physician from recent direct personal contact and can clearly articulate why a career in medicine is right for me.

Firm & Clear Motivation

- Demonstrated personal traits such as maturity, stability, integrity, responsibility, trustworthiness, leadership, enthusiasm, etc.
- Demonstrated that I have accomplished something worthwhile, and have skills and abilities that will allow me to contribute to the life of my medical school. “I will be missed” when I leave an activity, organization or program.
- Demonstrated the ability to carry out a sophisticated conversation (interview) with others considerably older than myself (faculty).
- Demonstrated that I can use another language and deal effectively with those of other cultural backgrounds.

Outstanding Personal Qualities
For details on the services featured in this guide, visit:

career.berkeley.edu

or scan:

career.berkeley.edu

Visit Us!

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