

Becoming a Physician

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The following document is designed to try to do three things. First, I hope it answers some of your questions about the process of getting into medical school. This document will deal specifically with the University of Colorado Denver School of Medicine. Secondly, I hope it serves as a continuing reference for you as you go through the process of getting into medical school. And third, I hope it causes you to really think about what you want to do, and as a result I hope it generates as many questions as it answers. As much as I would like to, I can't write a document that answers all questions as they relate to your particular life. Therefore, I have tried to write this in a way that makes you think about this as it relates to your own life, and what your life goals might be.

The pathway to acceptance to medical school involves a number of steps (hurdles, obstacles, or whatever). Although they are delineated here, I have gone into detail on each of them below. These steps are not necessarily meant to be done sequentially. Some of them could or should be done concurrently with each other. Others must be done in the proper order. Again, the details of each of these are described later.

To be successful at getting into any medical school you need to accomplish each of the following:

- you need to complete the required pre-requisite science courses within the time limits set down by the particular school or schools you are interested in.
- you need to complete the required non-science pre-requisite courses within the time limits, if any, set down by the particular school or schools you are interested in.
- you need to have completed a bachelor's degree or at least 120 credit hours of course work. This will depend on the schools you apply to (most schools require a bachelor's degree).
- you need to show the admissions committee's that you know what you're getting into by being able to put on your application evidence of working in the medical profession either as a paid professional or as a volunteer. Depending on the school, you may have to be able to document a minimum number of hours. Regardless of whether a school has a minimum number of volunteer/work experience hours as part of their requirements, the general rule is the more hours the better.
- once you have completed the science pre-requisites, as you are finishing up your pre-requisites, you will have to take the Medical College Admissions Test or MCAT. This exam is discussed later in this document.
- you will need to apply to medical school through the American Medical College Application Service or AMCAS.
- you will need to submit 3-5 letters of evaluation. Three of these should be from faculty members, and two from professional sources. In order to get faculty letters, you should get to know your professors. It is difficult to write a letter when you haven't had any interaction with them.
- once you have done all the above, if a school still considers you a viable candidate, you will be asked to come for an interview.
- once you have been accepted, you need to figure out where you are going to live, move, and get your financing in place.

There are some things to keep in mind as you go through this process. These may seem a bit simple or common-sense, but in my experience they are things that many individuals have forgotten or not followed very well.

- You must do very well in all aspects of this process. You cannot overcome poor grades by above average experience in the medical profession or in life in general. You cannot overcome lack of experience by exceptional grades. You must do well in all areas delineated above.
- You do NOT have to do all your re-requisites in three years! It does no good to do this very fast

if, at the end, you haven't done very well. As much as some people feel their internal clock ticking and saying "get on with it!" ignore that clock unless you're 35 or older when you begin working on your bachelor's degree.

- You must have strong letters of evaluation. Get to know your professors. Go in during office hours. Participate in class.
- This is a very tortuous process, with many twists and turns. You are going to have good days, and bad days. What you have planned right now as your path will most likely NOT be what finally happens. One bad grade does not ruin your chances of getting into medical school. Admissions committees will look at *trends* in things. If you have a trend of getting B's and C's every semester, that will hurt you. If your overall trend has been mostly A's with an occasional B, then a C once or twice will not necessarily hurt you. Admissions committees will look at the totality of your record. They realize that life happens. They realize that in the span of 3+ years, the chances of getting through that without a bad semester is slim. Keep in mind that bad is defined *very* relative here.
- You don't need a 4.0 gpa to get into medical school. The *average* is usually 3.6 for CU. That means there are those who had gpa's below this number in the 3.3 and 3.4 range. Again, a bad semester is not going to ruin your chances of getting into medical school. Several bad semesters, that is a different story.
- You need to do well in the science pre-requisite courses. You cannot afford C's in these courses. If you get C's, you need to repeat those courses.
- Try to avoid withdrawing from too many courses. After one or two, admissions committees begin to wonder.
- It does not matter what your degree is in. What matters is how well you do getting that degree, and that you showed you have a science aptitude by doing well on your science pre-requisite courses.
- You will hear stories about people getting in because they "knew somebody" either on the admissions committee or related to somebody on the admissions committee etc. Although I think this has probably happened occasionally, it is NOT the rule. Who you know politically does not usually serve you well. In fact, it can often backfire on you. (I could give you the names of *several* people who used this strategy and who are now in different occupations completely because they hedged their bets on getting in because of who they knew, and did poorly in class and the MCAT.) You need to get in on your own credentials, not those of others.
- You need to take responsibility for keeping track of deadlines. Do everything well in advance. There are almost always problems somewhere in the process. By doing this as early as possible, you have a very good chance of correcting problems long before the final deadline. Be prepared for problems.
- Keep your eye on the goal, but remember to put your energy into the task at hand. It does no good to worry about the MCAT and then because you're worrying about that, do poorly in the courses that will be critical in the evaluation of your application. Don't worry about things that are far in the distance. Keep them in mind, but put your energy into the immediate task at hand.
- Above all, assume nothing! Whenever you have a question, regardless of how silly you think it is, ask me. Use email, call me, or stop by during office hours. Email is a good way to go. I can often answer many questions that way and you won't have to stand in line to see me during office hours. But be very careful about the student rumor mill. There are those who, for whatever reasons, feel that if they mislead you, they increase their chance of getting in. Be very careful. If you hear very different things from various people, you need to come talk to me. Assume nothing, ask about everything.

Here are some general rules about the entire process. These again are here for your own evaluation. You may or may not choose to do/follow some of these.

- Do everything carefully, completely, neatly, error free and in perfect English. Type *everything*.
- Do everything well in advance of the deadline.
- Always send the original, not a copy unless you are asked to send a copy.
- Keep a copy of *everything*. This includes envelopes, copies of any documents with names, dates, or signatures, etc.
- Keep a dated record of all transactions, phone calls, etc. Get a log book of some type, and from the very first day of starting this process, record *everything*. Keep a record of the date, time, person, and subject of phone calls. Keep copies of all emails. Keep all correspondence. I know it sounds paranoid, but it could come in handy down the road.
- Do not trust the U.S. Postal Service. Verify delivery of anything important such as applications and letters.
- Proofread everything very carefully, and have at least three other people proofread everything!
- Go slow but steady. It does no good to do fast, if at the end you haven't done well.

Assuming you've read this far, the rest of this document is a much more detailed explanation of each of the steps mentioned previously. Depending on where you are in the process, some of these things will not apply to you. But it is worth reading and at least knowing what you have ahead of you.

I. Information about pre-requisite courses (science and non-science) and other academic information

Most medical schools require at least the following:

- a year of general biology lecture and lab (Biol 2051 & 2071 and 2061 & 2081) or the equivalent. You may have gone to a school where they did not have general biology as a specific course. If you have taken any science course such as zoology, microbiology, physiology etc. *that had a lab*, these will usually be considered equivalent. You **MUST** have *two* semesters of lab experience.
- a year of general chemistry lecture and lab (Chem 2031 & 2038 and 2061 & 2068). Again, you have to have two *semesters* of lab, not two *credit hours*. If you take the labs at MSCD, you will need to take an additional lab at UCD.
- a year of organic chemistry lecture and lab (Chem 3411 & 3418 and 3421 & 3428). Again, you have to have two *semesters* of lab, not two *credit hours*. If you take the labs at MSCD, you will need to take an additional lab at UCD.
- a year of college mathematics that includes algebra and trigonometry (at least through Math 1120). More and more schools each year are adding one or two semesters of calculus as a pre-requisite. I am strongly recommending to all students that you include calculus as a pre-requisite. This way, you don't eliminate yourself from applying to a school because you don't meet their pre-requisites. Virtually all the top 20 schools require *two* semesters of calculus at this point. Plan accordingly.
- a year of college physics lecture and lab (Phys 2010 & 2030 and 2020 & 2040; trig based, not calculus based). Again, you have to have two *semesters* of lab, not two *credit hours*. If you take the labs at MSCD, you will need to take an additional lab at UCD. The question often comes up as to whether you need/should take the calculus based physics. It is your call. If you took calculus, you like calculus, and feel it is not too difficult, taking the calculus-based physics will most likely prepare you better for the MCAT. On the other hand, if calculus was a pain, take the trigonometry-based physics. That is what the MCAT tests over.
- 9 semester hours of literature/composition courses. Some schools absolutely want 6 semester hours of literature and 3 semester hours of writing. Others want both, but they don't get hung up on what combination you have. Some, like CU, want 9 hours of some combination or just one or the other. You can have six hours of writing and only 3 hours of literature. Or you can have 6 hours of literature and 3 hours of writing. Or you can have 9 hours of literature or 9 hours of writing. But for most schools and in general you need to have some combination of both literature and writing.

Other courses that are strongly recommended include the following (in order of significance). If you are working on a biology degree, the majority of these are courses you would take anyway. This is more for those who are not working on or who did not receive a traditional biology degree.

- a. Biochemistry (Chem 3810 *or* Chem 4810 *and* Chem 4820)
- b. Molecular Biology (Biol 41400)
- c. Cell Biology (Biol 3611)
- d. General Genetics (Biol 3832)

These are the requirements set by the University of Colorado School of Medicine as well as most other medical schools. Some medical schools have slightly different requirements and you should consult the latest edition of *Medical School Admission Requirements* (MSAR) to see what additional requirements other schools you wish to attend have. This is available by phone at (202) 828-0416 or on the web at <http://www.aamc.org>.

Medical schools expect, usually, that by the time you enroll in medical school that you will have completed a B.A. or B.S. degree. A few only require completion of 120 sem. hrs. (such as CU). Even if a degree is not required by all schools, if you spend four years in college you might as well earn one! Major in whatever academic area you wish; if you major in an area you enjoy, your grades will be better. You need not major in a science. The rates of acceptance for most majors is the same (see the MSAR for a table of acceptance rates for various majors or appendix to this document). If you already have a degree, you will need only to complete the required courses listed above. You do not need to earn a second degree.

Entrance to medical school is competitive. In 2003, the number of individuals applying for medical school increased slightly over previous years. Nationally, 25.3% of the applicants were accepted. However, this trend is difficult to predict, and although the percentage of applicants accepted to medical school increased by approximately 1% this past year, this does not suggest that this is a trend. Prepare yourself as if it were not, and be pleasantly surprised if it is.

The mean overall GPA at CU has been about 3.6 ± 0.15 for the past few years. It is possible to be accepted with a lower GPA, but it becomes less likely if your overall GPA is below 3.2 (see graph in appendix). There are a growing number of medical schools (not CU) that are no longer accepting applications from individuals with overall cumulative undergraduate GPA's of less than 3.0. However, this does not mean that if you have a GPA in the low 3.0's that you do not have a chance of getting in. The CU School of Medicine as well as many others uses a formula to calculate your GPA that takes into account a bad year, a slow start etc. They calculate the GPA using three subscores of your GPA.

- The first is your overall GPA for all course work taken by the time you apply to medical school.
- The second is your science (BCPM) GPA. This GPA is calculated by looking at your grades in every biology, chemistry, physics, and math course you have ever taken.
- The third is your "best year" GPA. This is the GPA of an academic year (Fall semester followed by a Spring semester - no other combination is considered) in which you took 20 or more sem hrs of course work (or your post-baccalaureate or graduate work). Thus if you did poorly in the past, by doing well in 20 or more hrs in a following year, your GPA will be look better. It is important to remember that the best year GPA is a Fall/Spring sequence. Not a Spring/Fall, or Summer/Fall, or Spring/Summer.

It is also important to remember that if you have a poor undergraduate grade point average, taking additional courses as a post-bac student will NOT improve your undergraduate grade point average. Your undergraduate gpa is your undergraduate gpa.

II. EXPERIENCE

The only way you can be positive that medicine is the career for you is to try to gain some experience with it. It is becoming critical as time goes on that you have as much experience as possible with today's

health care delivery system. You need to know what physicians today deal with.

- What are the issues with patients?
- How does insurance work? What is an HMO or a PPO? How do they differ?
- How do referrals work with today's managed care system?
- Do you have a realistic idea of the business, social, and political aspects of the job today?
- Are you aware of the time constraints on physicians today?
- Have you spent enough time around sick and dying people to know what that is like?

You do NOT need to have a paid job in health care. The medical schools do not count a paid job as an aid or an orderly any more highly than volunteer work. What they *are* looking for is continuous exposure throughout your pre-medical preparation. The medical profession is changing literally weekly. You need to be part of that change.

You need to be able to talk about your experiences both on your application as well as during an interview. You *will* be asked to talk about specific events that are patient and/or medical personnel related. A favorite interview question is to ask you to talk about your most and/or least favorite patient experience. Part of what you must do during these experiences is gain knowledge about the health care delivery system in this country today. Often times students have opportunities to travel abroad. If you have this chance, take it. But do not let it substitute for exposure in this country. You will be going to medical school here, and most likely, practicing in the United States. You need to be able to show you know what you're getting into. I strongly recommend keeping records of where you worked, what days, how many hours, and to journal a bit about that experience. You don't need to necessarily keep a daily journal, but I would put something in it every week. Don't use this journal to record specific participation in technical procedures. Use it to debrief yourself. Record specific events about patients that were positive and/or negative. Record specific events about your interactions with other health care professionals, either positive or negative. Keep a record of contacts. Record their names, phone numbers, email addresses. These types of people could become very powerful sources for letters of recommendation. Keep in touch with them if you change locations. Keep their contact information up to date.

Ask questions of all the people you encounter or work with. Ask them what they would do differently if they could go back. Ask them what they find positive and negative about the health care system today. Remember that they are only one person. Talk to many individuals to get a good perspective. Use these experiences as an opportunity to gain information about the current state of health care reform. Keep this information in your journal. Again, when you go to fill out your application, this could become a very powerful resource. By looking through your journal, you will see how much you've matured in your thinking about medical school. You will have ready examples that you can include in your personal statement on your application, or use during an interview. This is becoming more and more important!

Finally, the number of hours is not important. What is becoming more and more important is the breadth of your experience and the continuity of your experience. Working 60 hours a week for one month during the summer is not nearly as powerful as 2 hours a week for a year in two or three different clinics at Denver Health and Hospitals. You need to show you have the perseverance and ability to do this continually. You need to show that you know about many aspects of medicine, not just one.

Many students wonder how they can go about obtaining this experience that medical schools are looking for. Here are a few ideas. These are not necessarily inclusive.

- Talk to your own physician. They will often let you shadow them or have colleagues that they can refer you to.
- Contact any hospital in the Denver area. Talk to the director of the Volunteer office. Make sure you tell them you are a premed student and that you need patient contact experience. They will often be able to help you out. There is a list of local hospitals and the volunteer contact information later in this document.
- Contact the Career Center in the Tivoli Student Union. They have a very comprehensive list of

hospitals, clinics, and doctors who are looking for people. If you do this, you could also get academic credit for it.

- If push comes to shove, talk to me. I sometimes have heard about positions. I don't usually have anything, but it is worth a try.

Again, it is important to stress that during these experiences, keep a record of what you did, what you thought, who you worked with, how many hours, on what days, and how to get a hold of the person you worked for or under.

III. THE MCAT or the Medical College Admissions Test

The Medical College Admissions Test or MCAT is administered in the spring (Mid-April) and in the fall (Mid-August). The science portions of the MCAT are based on a year of General Biology, a year of General Chemistry, a year of Organic Chemistry and a year of College Physics. It consists of four parts: Verbal Reasoning, Physical Sciences (includes General Chemistry and Physics), Writing Sample and Biological Sciences (includes Organic Chemistry and Biology). Beware that virtually all schools now require that your MCAT scores be no more than 5 years old, and more are starting to require that they be no more than 3 years old. The University of Colorado now requires scores that are no older than three years. This year limit is determined by counting backwards from the time you would *matriculate* into medical school, not from when you would be applying to medical school. Students often ask how many times you can take the MCAT exam. You can take it up to three times without any questions. After that, you need a letter from a recognized health careers advisor to be allowed to take it a fourth time. Very rarely, students have taken the exam five times. But that is the absolute limit. Beware also that more and more schools are starting to take into consideration the number of times you take the MCAT to get competitive scores. The day of taking it once "for practice" are rapidly disappearing. I strongly suggest you do not take this exam until you are ready. *Assume your first time is your only time.*

It appears that the best strategy is to take the MCAT in the spring. In the fall, scores have been sent to the medical schools around the beginning of November. Because of the huge number of applicants, medical schools are finding it difficult to interview all qualified applicants. In addition, more and more schools are starting to accept students on what is called rolling enrollment. This means they interview and accept students in the order their applications were completed at the individual school. Once their class is full, it is full. This past year, virtually every school that accepts students on rolling enrollment had their classes full before the August MCAT scores were even released. For the record, the majority of the top 25 schools now work on rolling enrollment or some type of modified rolling enrollment. You potentially run the risk of eliminating yourself from consideration at a school simply because of when you took your MCAT.

How does one study for the MCAT? The official guide to the MCAT is the *MCAT Student Manual*, which is available from the AAMC (address in appendix). The Betz Publishing Company has developed *A Complete Preparation for the MCAT* which is excellent. In addition, the Princeton Review and Kaplan review books are very good. These can be purchased at any major book store. In addition, Kaplan and Princeton both offer commercial review/prep courses for the MCAT and DAT. The Kaplan and Princeton courses will cost approximately \$1,500.00. These courses are not required, and are something you should think hard about before taking. I cannot say that one is better than the other. I can say two things about these courses: 1) they will not work if you do not follow the program exactly. Be prepared to spend 30-40 hours per week for six weeks studying with these programs. 2) They will not teach you things you have not already been exposed to at some time in your education. You will cover the equivalent of one semester in one evening. The one distinct advantage to these courses is the fact that you will take practice test after practice test. This accomplishes the goal of getting you used to the format of the exam.

Other strategies used by students is to form formal study groups with others whom you know are taking the exam at the same time you are. This works **ONLY** if you really can work with the people in your group and you are all committed to doing it in the spirit in which it needs to be done. The one strategy I

have learned from experience that *does not work* is to study completely on your own. It is much too easy to simply brush past things you don't like or don't understand, and spend an extraordinary amount of time on things you do understand or do like. This will give you a very false sense of confidence and you mostly likely will not do very well. By studying with others or taking a course, you can't get away with doing this. Do not study alone. It won't work.

The MCAT is scored on a scale of 2-15. Traditionally, each administration of the MCAT is scored and adjusted to itself. The mean for each section except the writing sample is an 8. This corresponds to the 50th percentile \pm 3%. To be competitive for most medical schools today, you need a total score of 30 or better. Another way of looking at it psychologically is to tell yourself you need a total score of 33 or better. One other thing to keep in mind. You may receive a 12 in two categories and a 7 in a third category. This would technically be a total of 31. But many schools also look at the *range* of your scores. If you have a huge range, regardless of your total, they are going to be concerned. It is critical you perform well on all categories. Do not depend on scoring extremely high in one category to offset a poor score in another category. It won't work. Lastly, many schools are starting to exercise a policy that eliminates any candidate with a single score of 7 or less regardless of their total score. You may have a total score of 32, but if one of your scores is a 7, more and more schools will not consider your application. Again as stated earlier, committees look for trends and consistency. A 7 against a 13 or 14 is not consistent.

Scores take an average of 6-7 weeks to be released. They will be mailed to your home or whatever address you leave on the application. They are not mailed via certified mail. Your scores will also be sent electronically to every medical school in the United States. If you are receiving a committee letter from UCD, please have your scores released here. You have the option at the end of the test to void your exam. If you void your exam, it will be shredded without being scored. Be *sure* you want to do this. Once it is done, there is no reversing that decision!

MCAT has provisions for Fee Reduction for those who may have difficulty with the cost of the exam. The application deadline for a fee reduction is a couple of weeks before the regular registration deadline. For details see the registration packet.

MCAT registration forms are available on the web at <http://www.aamc.org>. Follow the links for the MCAT.

IV. THE APPLICATION PROCESS

The majority of the allopathic medical schools use the centralized application service known as AMCAS which is short for "American Medical College Application Service." You submit your AMCAS application via a web-based application and they verify your grades and courses, calculate GPAs, put together a standard summary sheet and then transmit it to those schools that you designated in the application. How you should go about picking those schools is covered below. This application is VERY large (40+ pages). It is usually not available until the end of April, after the MCAT exam. Once it is available, you can work on it as often as you wish. *However*, if you sit too long without doing anything as you think things through, or look for documentation etc, you will be bumped off and there is a waiting period before you can get back on the web site. To help, there is a worksheet that can be downloaded so that you can do much of the work offline. That way, when you get online, you simply transcribe things across from your worksheet to the application.

Once you have completed the online application, you can submit it. The earliest you can actually submit your application is usually the middle of June. Once you submit your application, AMCAS will verify your academic credentials, then send your application to your designated schools.

There are some things to keep in mind about the new AMCAS.

- The new AMCAS application allows you to put a total of 15 experiences (9 medical and non-medical) down. In addition to being able to list them, you will be asked to document how many

hours total you worked at that particular job or experience, who your supervisor(s) was/were, what you did, and their contact information. AMCAS will randomly verify these experiences. Do not forge anything. Your journal will help tremendously here!

- The new AMCAS has an expanded definition of “disadvantaged” that now includes many things that can include things like whether you are a first generation student, did you come from a financially disadvantaged family etc. Disadvantaged is no longer only confined to ethnic groups. Something to think about.

Remember that the deadline for submitting your application is based on the schools to which you apply. The deadline for filing varies from school to school and is noted in the application material provided.

The way you fill out the application is extremely important. It is the first formal contact that you have with the admissions process at the school and it could be your last. If you are sloppy or secretive about yourself on the application, you will make a poor impression on the reader and your application will probably be rejected right then. I know it is against your upbringing, but you must "blow your own horn" at this point. No one else can do it at this stage of the process. As the application is reviewed, the first item looked at is GPA summary. Then the reader looks at the ensuing pages to see what you have done with your life, and what road you have traveled to get to the point of applying to medical school. Finally the reader will read your personal statement where you indicate who you are, what things in your life are important, and how you've come to be at this point in your life.

Important: Prior to beginning the process of filing your application, have copies of your transcripts from every school you have ever attended sent to you. Make sure they are correct! If there is an error, it **MUST** be corrected prior to filing your application. You will be required to put on your application exactly what is on your transcript. If there are any discrepancies, your application will be delayed significantly, and most often will be delayed long enough to prevent you from entering medical school that year.

Filling out the AMCAS Application

The process of filling out the application must be begun well in advance of any deadlines. It takes a considerable amount of time to complete!! Previous students claim the whole application process, including the supplementary applications, is the equivalent of a three-semester hour course!

In addition, **all correspondance bewteen you and AMCAS is done via email. IT IS CRITICAL YOU HAVE A DEPENDABLE, FUNCTIONING EMAIL ADDRESS!!**

1. When you first open the web site, READ what they have put there. If you have any questions about how the site works, use the tutorial. We are all prone to ignoring tutorials because they are long, boring, and seldom help us. This is one instance where this isn't necessarily true. I would encourage you to think about the stakes here.
2. Read the instructions completely and carefully before beginning to fill out any part of the application.
3. Download and make a photocopy of the AMCAS application worksheet. Complete as much of the worksheet as you can before going online. It will help lower your frustration level significantly, and therefore reduce the chances of stupid mistakes made in anger or frustration!
4. Have copies of your transcripts sent to AMCAS as soon as possible (use the AMCAS transcript matching forms) and, at the same time, have copies sent to you. This way you know what has been sent to AMCAS and you will have an identical copy for filling out the application. (Each year you should request a copy of your transcript to verify that all course grades have been recorded accurately. This is especially necessary if you have had a grade change submitted on your behalf.) Again, it is strongly recommended that you review a copy of all your transcripts prior to having them sent to AMCAS or other application services. This way, if there is an error,

- you have time to correct it prior to filing your application.
5. To fill out the application to your best advantage you need to know who you are. Who you are is reflected in what you have done. And you have done a lot of things. Start *now* by dividing a piece of paper in half, lengthwise. On the left hand side list all that you have done since high school both those related to the medical profession, and those related to community activities. This includes involvement in clubs, groups, and/or organizations as either a member or as an officer. For each group list what you have done for/with it. List involvement in political activities, work with scouts, church, community groups, tutoring, etc. List activities associated with health care delivery whether volunteer or paid. List all the jobs you have had; indicate number of hours per week and the types of things you did. The list should also include the help that you have rendered to friends and neighbors. List everything...the list can be slimmed down later. It will take some time to recollect all that you have done. So work on the list for a while, then put it away for a day or two and then work on it some more. You will probably be very surprised at all that you have done. Again, this is where a journal would help. Build a “chapter” that includes all these things. Add to it as you think of things. This then becomes a framework for your personal statement.
 6. All medical schools are looking for evidence of leadership, self-motivation, ability to carry things through, compassion, caring for others, ability to work with others, ability to self-evaluate, the ability to be a life-long learner, and all such good things. Once you have your list of activities, go through the list and on the right hand side of the page put down the skills and personal characteristics these activities reflect or required. So from this list you will gain insight into the characteristics that are most predominant in yourself.
 7. Now that you know who you are, you are ready to begin to write the first draft of your personal comments. Put yourself in the place of the reader and ask yourself what you would like to know about an applicant. Most readers want to know why you want to go to medical school. What is your motivation for doing this? Some things to think about while contemplating this might be these. Who are some of the people in your life who have had a significant influence? (Professors, patients, doctors, etc). What was their influence? When you came to a cross-road in your life, why did you choose to go the way you did? What were the factors that pushed you one way or another?
 8. Some things to keep in mind while writing your personal statement.
 - Tell them who you are and why you are the best applicant in the pile.
 - Never apologize for something in the past; just explain it.
 - Use proper English and make no typing errors. I have seen entire applications eliminated because of one spelling error in a personal statement.
 - Sell YOURSELF. Never leave the reader with a negative impression of you. Turn EVERYTHING into a positive.
 - Most committees are NOT impressed with fancy quotes or creative writing. They don't care how well you can write, or what your vocabulary is. They want to know why you want to become a Physician. Avoid the tendency to try to right a Nobel Prize quality document. Be yourself.
 - Don't start your essay with “I've always wanted to be a doctor because.....”
 - Be careful about using personal injury stories or family medical situations as motivators for becoming a physician.
 - Don't tell them about a medical procedure you watched. They are doctors. They know all about them. Tell them what you learned observing the patient or the physician, or the office staff as part of a patient's procedure.
 - Use proper sentence structure.
 - Write the way you talk. One of the things they will look for is serious discrepancies in the way a personal statement is written and the way you talk during an interview. If you use big, flowery words in your personal statement, and then interview using 4 and 5 letter words, the immediate suspicion is going to be that somebody else either wrote or re-wrote your personal statement. Again, they are looking for trends and

- consistency. Write the way you talk (but leave out the “uh’s,” “like” and “dude”).
- Do not lecture the admissions committee about what you feel is wrong with “the system”. They know what is wrong. They don’t need to be reminded. You may want, however, to have some ideas about how you might go about fixing it to some extent.
 - Avoid extensive references to childhood or high school experiences. You need to convince the admissions committee that you have made a well-informed adult decision to pursue a career in medicine.
 - If you use your personal statement to discuss poor grades, poor MCAT scores or similar negative issues, be sure you don’t drone on and on, and make sure you turn it into a positive somehow.
9. Have several people, some who know you well and others who do not, read what you have written both for grammar and for what they feel as they read it. Is it positive? Is it upbeat? Does it make you sound good? Are the people who do not know you well able to tell you who you are and why you want to go to medical school in the way you intended? Are they able to get an accurate picture of who you are and what your motivation for this might be? I will be glad to give you feedback.
 10. When the application is complete, have at least three *other* people proofread the whole document. Errors reflect poorly on you. They can be interpreted as an indication that you do not really want to be a medical student. The key word here is Professionalism.
 11. Make photocopies of ALL parts of the application before sending.
 12. Before sending, check each page of the application against the Instructions and re-read the list of common errors made by applicants that are listed in the Instructions.
 13. Submit the application to AMCAS well in advance of deadlines. You do not need to have taken the MCAT nor had the letters of recommendation finished before sending the AMCAS application. AMCAS will hold your application until the MCAT scores arrive.
 14. Once you have submitted your application to AMCAS, you should receive an email that states they have received your application, and a second email when it has been verified. Finally, you should receive a third email when it has been transmitted to the medical schools you indicated. It will take 3-6 weeks to verify and submit your application. Be patient. Again, I cannot stress enough the importance of having a working email address. It will be *critical* if there are problems as this is the *ONLY* way AMCAS will let you know there is an issue.

Selection of Schools

Selecting the schools you want to apply to is a very time consuming and heart wrenching process! There is no magic way to do this without a great deal of angst. To help make your decisions, use various sources of information such as:

- a. Medical School Admissions Requirements (MSAR)
- b. Bulletins of the various schools.
- c. Web sites: one that may be of help is

<http://carbon.cudenver.edu/~cferguso/health/index.html>

As I find others, I’ll post them on the Health Career web site.

A new edition of the MSAR is published each April/May and contains the current information on requirements, etc. for the entering class for which you will be applying. You are responsible for meeting the current requirements. The MSAR also summaries admissions data, especially the number of non-residents accepted by each school.

The first step in deciding which schools should be favored with your application is to establish a set of criteria. This should include:

1. The medical school(s) in the state of which you are a resident. It is here that you have the best chance.
2. Schools which take non-residents. Check the MSAR for whether the school has a contract with

other states, etc., e.g., Vermont takes many non-residents but most are from Maine, Rhode Island and New York.

3. Schools within the Rocky Mountain region.
4. Schools outside the region.
5. Schools where CU-Denver students have been accepted recently.
6. Schools at which your GPA and MCAT scores are competitive. (See the current MSAR).
7. Personal criteria:
 - Geographical areas you can tolerate for 4 years or more. A recent AMA study found that 78% of medical school students end up living within 500 miles of the institution where they went to medical school. Make sure it is an area you can tolerate.
 - Tuition.
 - Application and interview expense.
 - Any non-traditional characteristics you have: experience, talents, age, time out of school, etc.
 - Programs in areas of your interests: clinical research, specialties, etc.
 - Presence of some sort of support group...family, friends, church, etc.

Most students apply to 8 to 10 schools...some apply only to one and some to as many as 25. Various studies have shown that if the schools are selected with some care then 10 to 12 is the most efficient number of schools. Remember that it will cost you on average \$135.00 per school to apply. This does not include the cost for traveling for an interview. Remember that these fees are non-refundable.

As you investigate various schools, make notes as to what you like and what you do not like about the school. Also write down any questions you have about the school. These notes will be useful later as you go through the application process. If you write a school for a copy of their bulletin, do so in proper English and type the letter. Do not send a photocopy of a template letter. Be professional.

For each school to which you decide to apply, make a file folder. In the folder place your notes and copies of all communications to and from the school. On the front of the folder record all items needed by the school for the application process, the deadline and the date the material was sent. This way you will have ready access (if you can find the folder) to all information on that school. Keep monitoring the front of the file to be certain that all requirements are being met well in advance of the deadline.

V. SUPPLEMENTARY APPLICATIONS

Each of the schools will, after receiving their copy of the AMCAS application, review your application and if interested in you will send you a supplementary application packet. For many schools this means another essay which you should tailor to that particular school. Hence the need for the notes mentioned earlier. Some schools will also want additional letters of recommendation. It is critical that you be very familiar with each individual school for which you complete a secondary application. They are trying to ascertain from you why you want to go to *their particular school*, not just why you want to go to medical school. You cannot write and submit a generic statement on your secondary applications.

The secondary application for most schools is now web-based only. They will send you an email with the link for the secondary application. Make sure you have a functional email address. You will also need to submit an additional fee as part of this process. The average cost right now is \$75.00 per school. This fee is non-refundable.

Do not assume that if you get a request to submit a secondary application that you have a good chance of

getting in. Many schools ask for secondary applications from 90%+ of the applicants. You need to make a decision as to whether you want to pursue admission to a particular school. It is perfectly appropriate to submit an AMCAS application to a school, and then decide not to pursue it further. In this case, you simply do not return the secondary application and your file will go through the process incomplete. It is professional to send a school a letter telling them you are not going on with the application process, but not necessary.

Approach your secondary application with the same seriousness and commitment that you approached your AMCAS. It is just as important.

VI. LETTERS

You will need letters of recommendation/evaluation for application to medical schools. CU accepts five letters: three from individual faculty and two from other people who know you well and will write informative letters. The Health Careers Advisory Committee letter will substitute for the three letters from individual faculty as well as the two professional letters. Other schools will consider only letters from a Health Career or Premedical Committee or from faculty. Thus, if you are applying to a number of schools, it may be to your advantage to have a letter written by the Health Careers Advisory Committee. There is a separate packet which describes the procedure and can be picked up in NC 3014B.

Whether you choose to use the committee or to have individual letters sent by faculty, you will eventually need letters of recommendation from faculty members. Therefore, it is critical that you get to know the faculty with whom you take courses. Then they will be able to write you much better letters. *If* you are having a committee letter done, these letters may be sent to the Health Careers Committee at any time. We will keep them on file until you are ready to apply. It is critical that whomever writes letters for you be able to address who you are, and why you would be a good medical school student. They need to be able to address issues or bring things to light that *are in addition to* what is in your application. They need to be able to provide specific examples of things they have observed, or conversations they have had with you that support their assertion you belong in medical school. If your letter writer can only comment on your grade or that you attended class, they will write a letter that not only is of no use, but could actually be detrimental.

Do not have too many letters sent. It only increases the work of the admissions committee and, after the first four or five, multiple letters probably will not provide such additional, helpful information about you. If there are too many letters in the file, one begins to wonder what the applicant is trying to hide! Finally, physicians have a tendency to write very poor and uninformative letters. Do not waste their time nor the time of the members of the committee by having them write letters *unless* they can add significantly to your file. They tend to write letters that spend as much time talking about themselves as they do talking about you. In addition, they tend to write letters that explain why you'll make a great doctor. The medical schools assume if they accept you that you will be a great doctor. They need to know if you can survive medical school today. It is appropriate to "coach" your letter writers that you need a letter that ADDS to your application, not just reiterates your application.

VII. INTERVIEWS

Medical schools use interviews to gain an impression of you and how you react to people when you meet them for the first time. They are looking for such things as how articulate you are, how you think on your feet, how self-confident you are, your maturity, the level of your motivation, and for reasons why they, the interviewers, should advocate your acceptance. They are also looking for inconsistencies between your application and how you present yourself. At many medical schools, the interviewers present your case to the committee. Thus, they are on your side unless you do or say something that gives them great

concern. They expect you to be nervous; if you are not they might draw the conclusion that you are overconfident or, that you do not really want to gain entrance into the program.

There are a few things that you can do to prepare for the interview.

- Know what you wrote in your application materials. Read your entire application the night before an interview. Make sure you know what you've said about yourself!
- Know the background of the people who wrote your letters. Be able to talk about how you know them, what your interaction with them has been, and how long you've known them.
- Know the school, its requirements and its curriculum - read their Bulletin from cover-to-cover. Be sure you are up to date on any special programs or curricular concepts they have.
- Read up on the current issues in the health care delivery field. A good source for medical schools is local newspaper. Other good sources include many of the common magazines such as Newsweek, Time, U.S. News and World Report etc. They will give you the political and social/business aspects of things. In addition, reading New England Journal of Medicine, and JAMA will give you the medical profession's take on things. These two journals sometimes have commentaries or editorials by medical providers that are very insightful. One final word of advice; interviewers LOVE to ask questions about things that may have been in the paper the day before. Read the paper every day for a week before your interview. This includes the business section as well.
- Eat breakfast the morning of your interview.
- Be on time! (In fact, be early).
- Don't try to B.S. people. Be yourself. Again, consistency. If you try to tell them what you think they want to hear, an experienced interviewer will pick that up instantly, and you are done. Be honest.

Is the interview important? YES. At the CU medical school the interview scores determine whether you are even considered by the admissions committee. In the final evaluation, these scores play an important role. Thus you need to do well.

How long are the interviews? They are usually scheduled to last 45 min. However, they may be shorter or they may be longer. Do not try to read anything into the length of the interview. Students with both lengths of interviews have been accepted...or rejected. The duration of the interview reflects more the needs of the interviewer than how the interview went.

How should you behave?

- Arrive early so you can find the room where you are to report.
- Dress neatly and professionally. Hint: if you are a male and haven't worn a tie in 10 years, don't wear one to the interview. Be yourself. If you wear a tie when you haven't in years, you'll be nervous, uncomfortable, and most likely will not present yourself well. Same thing for females. Wear something that is professional. (NO JEANS!)
- When you meet the interviewer, be courteous and greet with a firm handshake.
- Throughout the interview maintain eye contact with the interviewer; do not look all over the place. Remain cool; do not overreact. Some of the interviewers try to provoke the interviewee; do not fall for it.
- Do not chew gum, do not smoke, do not play with your pencil or your hair.
- Sit erect but relaxed, or at least as relaxed as possible.
- Listen to what is being said. If you do not understand the question, ask that they repeat it. Put your mind in gear (but do not take too much time) before answering. Answer the question that was asked, not what you think might be being asked.
- Have a positive attitude and give positive answers.
- Do not ramble; be spontaneous, clear, concise (but not cryptic) and, above all, honest.
- Do not volunteer information especially about subjects which you are not extremely well versed. Remember that if you bring something up, an interviewee is well within their right to pursue it

further. If you don't want to talk about your previous major illness, or family issues, don't mention them in the first place.

- Use the name of the interviewer.
- Remember you are the expert...only you know yourself.
- If given the opportunity, ask questions, but only if you have thoughtful ones.
- Thank the interviewer for his/her time.

The nature of the interviewers vary. They may be from one of the basic science departments, from a clinical area, or they may be a student who is a member of the admissions committee. They have varying styles which should not be surprising. Some are pushy, some laid back, some friendly, some antagonistic, some active, some passive. But they are all skilled at interviewing. Do not be offended by their mannerisms. Some will have read your folder before you arrive. Others feel that they get to know you better if they do not look at your folder until after the interview, or during the interview. In this manner they are not biased for or against you. So don't assume the interviewer knows anything about you. In all cases they will be your advocate before the committee and are looking for information with which they can urge your acceptance before the committee. You start with a 10, the highest score, and only your performance can lower it. At most schools you are interviewed by 2 interviewers separately. A few programs have two or three people interview you at the same time. Other schools have begun using a group problem-solving session as part of the interview process as well, where 8-10 candidates are asked to work together to come to consensus about some issue presented to the group. The interviewers are looking for individuals who are able to be leaders, and listeners.

What types of questions are asked?

1. Questions centering on your motivation and the testing of your motivation: When did your interest in medicine first arise? What other experiences accentuated this interest? Trace why you have wanted to be a doctor (nurse or such) from your freshman year in high school to today. Why do you want to be a doctor?
2. Questions centering on your understanding of medical school: why do you think you will do well in medical school? What makes for a good medical student?
3. Questions centering on how you view the future, on how you project your past experiences into the future and what your life goals are: What will you be doing ten years from now? What type of medicine will you practice? Fantasize about yourself as a physician.
4. Questions centering on prejudice (on their part) and on how you have planned your life: Why did you choose to go to CU at Denver rather than to that other campus in Boulder?
5. Questions centering on the nature of your support groups which have been shown to be essential for success in medical school: What is your family like? What are your friends like? Do they support your decision? What is your relationship with your family? Do you get along with your mother, wife, etc?
6. Questions centering on your likes and dislikes and how you perform under adverse conditions: What was your biggest adversity? what was the best experience in your life? What was the worse experience in your life?
7. Questions centering on your self evaluation: What are your strong and weak points?
8. Questions centering on your outside interests and your inquiring mind and how you deal with stress: What are the last two books (non-school) you have read? Did you like them? Why did you like them? What do you do for relaxation?
9. Questions centering on poor performance in the past, or on the breakup of a marriage; have you moved beyond the experiences or do you still carry a guilt about them that might erupt when you are stressed as a medical student: Why did you get divorced? why did you get an F in...? Do you see the ex often? Do you see your child(ren) often?
10. Questions centering on the aspect of medicine you have chosen: Why not a career in research? If you want to help people why not become a minister or a psychologist?
11. Questions asked of both males and females: How will your child(ren) be taken care of if they are

- sick? What happens if you (your wife) gets pregnant while you are in medical school? How will you deal with marriage while in medical school?
12. Questions centering on how you react to people and how you have thought about your experiences: During your clinical experiences, what have been the worst and what have been the best patients?
 13. Questions centering on how realistic you are: What will you do if you are not accepted? What about next year?
 14. Questions centering on current issues: How do you view socialized medicine? How do you view Federal health insurance? How should abortions be financed? What about test tube babies? What about genetic engineering?
 15. Questions about situations (note there are no right answers, but you should answer!). They are looking to see if you are flexible, opinionated, innovative, how you view people, etc.: A 15 year old girl comes in and is pregnant and does not want her parents to know. A 50 year old man with an ulcer is not taking his medicine properly. A 70 year old woman has terminal cancer and wants to die. A 50 year old man has signed a living will. His wife, however, wants you, the doctor, to do all heroically possible to prolong his life. What would you do?

These are the types of questions that are asked. Let me underscore that both men and women are asked about the impact of a career as a medical student upon their marriage and the care of any children. In the past few years the medical schools have come to realize that a support group of some kind is vital for a student and that both spouses have a role in the care of each other and of their children. While a number of questions may seem nosy, remember that you ARE the subject of the interview!!

Remember as well, that although there are certain questions an interviewer cannot ask *initially*, once YOU mention something, any questions regarding that are fair game. Don't bring something up you aren't ready to answer more questions about.

It is natural to be concerned when it is February and you have not been invited for an interview. The CU School of Medicine has historically accepted about half of the class on the 15th of March or later. I have known individuals who have been interviewed on the Friday before the Ides of March and have been accepted on that date.

IX. FINANCING MEDICAL SCHOOL

It is increasingly clear that few, if any, low interest, deferred non-federal loans will be available for the financing of a medical education. Whereas in the past money was readily available, now such is not the case. You must anticipate providing at least 20 percent or more of the tuition, fees and living expenses from your own funds. Be prepared to borrow money. The medical school class that graduated in 2002 had an average debt load of \$104,570. In addition, keep in mind that you do not get to defer payments on these loans during your residency. Once you graduate (which is at the end of your fourth year - the government does not consider you a student during your residency), your repayment begins. The average family practice resident during their first year will earn approximately \$39,000/year BEFORE taxes (yes this is taxed income). With an \$104,000 debt at an average of 6% interest, your payments will be approximately 1,555.00 per month. When you consider that your average take home pay will be about \$2,250.00, it doesn't take a rocket scientist to see what might happen! The more you can save, borrow from family etc. to reduce your ultimate debt load, the better.

When you are accepted by a medical school they will provide as much help as possible in locating sources of funding. But you will be responsible for providing part of the financing. You should save as much money as possible. CU does not require that you use it all the first year. They require only 30% of what you have saved which leaves you with some money for emergencies, etc.

Appendix 1. Useful Books or other study aides that can be ordered from the American Association of Medical Colleges

"Medical School Admissions Requirements" otherwise known as the MSAR. New edition each May. Price is \$35.00 + \$5.00 shipping (subject to change!). Order from:

- a. Association of American Medical Colleges
Attn: Membership and Publication Orders
Department 66
Washington, D.C. 20036
- b. Phone 202-828-0416
- c. Fax 202-828-1123

2. AAMC Curriculum Directory - This directory describes the academic programs of medical schools in the United States, Canada, and Puerto Rico. It includes information on curriculum characteristics and current trends and innovations of interest to applicants. Item Code C98N, \$35.00
3. Minority Student Opportunities in the U.S. Medical Schools - The publication provides information to under-represented minorities applying to medical school. It contains descriptive entries for U.S. medical schools with information on recruitment programs, admission policies and procedures, academic support programs, and financial aid for under-represented minorities. Item Code MS08, \$12.00
4. MCAT Student Manual - The MCAT student manual provides detailed information about the format and content of the Medical College Admission Test. The manual contains science content listings and describes the science problem-solving, critical thinking, and communications/writing skills tested by the examination. Preparation and test-taking strategies are described. Item Code MCAT, \$20.00
5. MCAT Practice Test IV and Solutions Booklet - MCAT practice test IV is a full-length practice exam with scoring key and raw-to-scaled score conversion table. Supplementary worksheets are included to allow the user to analyze performance strengths and weaknesses on the test. A separate Solutions Booklet which provides a detailed explanation for the correct answers to the questions in the practice test is included in the packet. Item code MPT4, \$35.00
6. Scoring the MCAT Writing Samples: Examples of writing Sample Responses and Explanations of Their Scores - This publication is intended for use by examinees as they prepare to take the Writing Sample section of the MCAT. The publication describes the process by which essays are scored and provides examples of actual essays written by examinees during operational administrations. Critiques discuss essays' strengths and weaknesses, explain the reasons for their scores, and offer suggestions for improvement. Item Code SMWN, \$10.00

B. Important Abbreviations

1. AMCAS - American Medical College Application Service
2. MCAT - Medical College Admissions Test
3. MSAR - Medical School Admission Requirements
4. GPA - grade point average
5. AAMC - American Association of Medical Colleges
6. AADSAS - American Association Dental Schools Application Service
7. AADSAS - American Association of Dental Schools Application Service
8. DAT - Dental Admission Test
9. OAT - Optometry Admission Test
10. PCAT - Pharmacy College Admission Test
11. VCAT - Veterinary College Admission Test
12. AACOMAS - American Association of Colleges of Osteopathic Medicine Application Service

C. Important Addresses, Phone Numbers, Web Pages

1. MCAT -

2255 North Dubaue Road

P.O. Box 4056

Iowa City, IA 52243

<http://www.aamc.org/stuapps/admiss/mcat/start.htm>

2. AMCAS -

2501 M Street NW

Lbby - 26

Washington, DC 20037-1300

(202) 828-0600

<http://www.aamc.org/stuapps/admiss/amcas/start.htm>

3. AACOMAS

5550 Friendship Blvd

Suite 310

Chevy Chase Maryland 20815-7231

(301) 968-4100

<http://www.aacom.org/>

4. MSAR

phone: 202-828-0416

fax: 202-828-1123