The Winthrop House Premedical Handbook

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Welcome!

This guide is intended to serve as a resource for students in the House who are thinking about applying, or are ready to apply, to medical school. In the following pages we aim to answer many of your questions about the medical application process. Please consult this handbook often! In addition to this handbook, there are many other resources available:

- The OCS website (http://www.ocs.fas.harvard.edu/medical-health) is a key source of information about application to medical school, and in particular about which Harvard courses satisfy the pre-med requirements. At OCS students can also obtain information about summer jobs, medical schools, and interviews.
- Another useful resource is the American Association of Medical Colleges web site (www.aamc.org) which has general statistics about medical school admissions, admissions requirements, and financial aid.
- In order to research medical schools you can look at their individual websites or you can look them up in the Medical School Admission Requirements handbook, produced by the American Association of Medical Colleges. This handbook, published each spring, gives basic information about medical schools including admissions information from the previous year. There are copies available at OCS, from Winthrop's Pre-Med Resident Tutors, or you can purchase your own copy for $25 through the American Association of Medical Colleges.

If you have any questions or comments about this handbook, or about premedical advising at Winthrop in general, please let us know. We are more than happy to meet with you!

Winthrop House Premedical Advisory Committee

Winthrop House Resident Premedical Tutors

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Winthrop House Non-Resident Premedical Tutors

Winthrop House has a talented and diverse group of Non-Resident Pre-Medical Tutors. Our Tutors range from attending physicians to residents to Harvard Medical/Dental Students to health care consultants. Collectively, their interests encompass much of modern medicine. Within this group, there are specialists in Cardiology, Oncology, Internal Medicine, Primary Care, Pathology, Pediatrics, Emergency Medicine, Radiology, and more. Many have ongoing research projects in cancer biology, immunology, neuroscience, healthcare policy, global health, and healthcare economics. Our Tutors do, however, share something in common: they have all successfully managed the Medical School application process and have volunteered their time to help you do the same.

Our Non-Resident Tutors have much to offer, and we hope that each of you will proactively develop a relationship with your assigned Tutor over the coming years. They can offer valuable guidance on clinical shadowing, opportunities in global health, research laboratories, the application process, and the realities of life as a physician. Below you will find a list of Winthrop's Non-Resident Tutors, arranged by medical specialty or focus. Please note that many of our Tutors have offered to host you in a clinical or research setting, and these tutors are indicated as follows:

Winthrop House Pre-Medical Non-Resident Tutors
Please see the Winthrop House website non-resident tutor section for the most up-to-date list
If you are assigned to a non-resident tutor who does not appear on this list please let the Winthrop Resident Tutors know.

Should You Apply to Medical School?

This is THE most important question to ask yourself. Although you may be sure that the answer to this question is "yes," we will often invite you to reconsider this answer carefully. As you progress through your undergraduate experience, you will learn more about yourself and about what a medical career entails. As you accumulate these new impressions, it will be important to continue to ask yourself whether the possibility of becoming a physician is more or less attractive to you, and why. One of our committee's main goals is to assist you in making this decision and in keeping the medical school option open while you are thinking.

Thinking about whether or not to apply to medical school is not a weakness – it is essential that you carefully consider this major decision that will affect the rest of your life. Being a physician is more than a job; it is a rigorous lifestyle and life choice that demands dedication and sacrifice.

One way to think about this decision is to consider the advantages and disadvantages of a career in medicine. Here are some of our thoughts:

Advantages:

1. Even with all of its recent changes, medicine still affords you the opportunity to have very deep, meaningful, and caring **relationships** with people, in a way that is rare in other fields. This demands compassion for and enjoyment of others. It can provide tremendously satisfying immediate, medium, and long-term personal rewards.

2. Medicine is an excellent way to **apply scientific principles**, mixed with heavy doses of practical experience and common sense, for the benefit of others. Clinical medicine offers the considerable intellectual challenge of mastering a huge amount of data and using it to solve problems on a daily basis to help patients. It is much like scientific detective work. Medical research can offer a wide range of opportunities, from the excitement of working to answer basic questions about biology and medicine to the chance to formulate new techniques and therapies to treat disease. These pursuits can be fun and addictive!

3. Medicine affords tremendous **intellectual flexibility**. Virtually every other discipline, from the natural sciences and engineering to psychology, economics, sociology, government, ethics, law, business, and philosophy has a significant relation to human illness and suffering. These areas can be incorporated into your medical study or drawn upon later in your career to broaden the scope of your daily activities. The capacity to *cultivate* your career into whatever you want is unparalleled.

4. Physicians are fortunate in that they generally have **reasonable job security**, with some degree of confidence that one's skills will be in demand somewhere. It does *not* mean, however, that your compensation (i.e., your income) will be high. Nevertheless, the knowledge that medical professionals can find employment around the country and the world is regarded as a major advantage of medical training.

Disadvantages:

1. Medical training consumes a very large part of your early life! You **will sacrifice a normal, rest-of-the-world schedule**, and this can interfere with the rhythm of your non-professional life. Also, the length of time demanded by medical training is *significant* – you must be *positive* that you are pursuing the right career for you.

2. By restricting your personal time, medical training can impinge on your personal development and that of your relationships. It makes it difficult to meet new people outside of your work environment. It puts severe **strain on existing relationships** and on one's mental and physical health.

3. **Common ailments are common**. Because of this, clinical medicine often requires relatively little *abstract* creativity, and instead places a (justifiably) great emphasis on being compulsive and technically thorough. A large amount of clinical medicine can be quite routine. Creative people have the opportunity to craft careers in academic medicine, where the proportion of interesting cases is greater than in private practice, but the availability of these careers is relatively limited.

4. **Careers in academic medicine pay significantly less well** than comparable careers in private practice and often have the added strain of pressure to publish, which requires obtaining grants to conduct research. Seeking funding through grant applications can be terribly time consuming, and is generally not the type of activity that brought the physician to medicine. Private practice physicians often have to battle insurance companies for reimbursement, which is a significant source of stress.

5. **Medical education and training is expensive**, and is becoming difficult to financially justify given the downward trend in physician's earnings. Average debt load for graduating medical students (including undergraduate education) is upwards of $200,000 and has to be repaid on a resident's salary of, on average, ~$55,000 a year for the three to seven years of post-graduate training. There is significant opportunity cost in pursuing a medical career, and the time when earning a "physician's salary" was enviable is largely behind us. Rarely does the profession make sense from a financial justification alone.

Food For Thought:

1. The key requirements for success and happiness in a <u>clinical</u> medical career are:
    - The ability to have deep *compassion* for other human beings.
    - A strong sense of *dedication*, *responsibility*, and *commitment* to the individuals for whom you are caring.
    - An understanding of the established principles of medicine and proficiency in the execution of its techniques.
    - A willingness to devote great *time and energy* to maintaining one's competence through extensive reading and supplemental training.

- The ability to *make good, sensible judgments* when dealing with suboptimal data and unclear conditions, and to be comfortable doing this. Remember: medicine is often as much art as science.
- A basic willingness to maintain *self-discipline, high ethical and moral standards,* and to *sacrifice* a fair portion of yourself for some sense of a higher goal.

2. **There are <u>many alternative ways</u> to derive personal satisfaction from helping people who are ill**. The physician's role in care-giving is powerful, but limited. In most cases, it is actually nurses, physical and occupational therapists, and many other non-physician health professionals who work most closely with patients. In particular, you may want to consider training as a doctor of osteopathic medicine (DO), nurse practitioner (NP), physician's assistant (PA), dentist, oral surgeon, social worker, or clinical psychologist.
    - **DOs have a very similar four-year medical training as MDs**, and many pursue careers in primary care (some go on to specialization as well in diverse fields, from interventional cardiology to dermatology and sports medicine).
    - **NPs are also increasingly taking over roles previously occupied by physicians**. NP training takes only three years and is much less costly than medical training. NPs are able to see patients independently, can prescribe medications, and can refer patients directly to specialist care.
    - **PAs are widely employed in a multiple of medical specialties**. PA training takes two years and is much less costly than medical training. PAs are able to see patients independently (nominally under the guidance of a physician), can sometimes prescribe medications, perform surgery, and can refer patients directly to specialist care.
    - **Dental school affords an ability to pursue specialized medicine as well as develop skills in surgery**. Dental school is 4 years, with a similar schedule to medical school during that time. Residency can be as little as 1 year to become a general dentist or 6 years to become an oral and maxillofacial surgeon. Dentists in general have a less time-demanding schedule and higher income, and the opportunity to be a small business owner in private practice.
    - **Other careers also offer the opportunity for meaningful impact on the health of the broader community.** Some of these include becoming a health care system designer, policy maker, or administrator. Degrees such as the MPH, MBA, and MPP can be useful for those interested in these areas, though students in these degree programs often have worked a few years after college in public health areas before returning to graduate school.

3. **A medical degree does not train you to do medical research.** The bulk of your training will be directed toward using scientific knowledge in medical care, rather than in preparation for exploring the boundaries of science itself. While many clinically-trained doctors do good research, this is because they have studied certain fields above and beyond their basic medical training. People who are primarily interested in research should consider a Ph.D. in their area of interest instead of, or in addition to, an M.D.

This is a lot to think about. Certainly these issues cannot be analyzed satisfactorily in a short period of time – so start thinking early! It is in your best interest to make some general decisions about each of these issues before you sign on a dotted line. Medical schools would rather you give yourself enough time to come to a clear, mature decision and to become hungry for medicine rather than pursuing a career in medicine without fully considering this decision. Taking time off before medical school is entirely acceptable and, indeed, is often an advantage. You should not feel under any undue time-pressure to make a decision about medical school. Stay loose and flexible; there are a lot of options! As long as you are doing something intellectually meaningful you can easily afford to postpone your decision for up to several years after graduation without penalty and often with benefit. The average age of the entering class at US medical schools hovers between 24 and 26, and the OCS reports that about 70% of Harvard students who enter medical school do so at least one year after graduating from Harvard.

While learning more about the ins and outs of a career as a physician is clearly valuable, it is also very important to talk with other health professionals, many of whom are very happy with their jobs, and may well have been pre-meds at some point before making a switch. Always speak to both trainees and seasoned practitioners so that you get both perspectives. It is also very important to shadow physicians and see what clinical practice is like. Experiencing what medicine is like in practice is much more fruitful for making career decisions than just thinking about medicine in the abstract.

In the meantime, since you've picked up this handbook, you are sufficiently interested in a medical career to wish to keep it open as an option. We are happy to have you sign up with us and we're delighted to get to know you regardless of what you finally decide! If, after careful deliberation, you ultimately decide that medicine is best for you, then you should go for it with gusto!

Winthrop Medical Advising Committee

Your Winthrop premedical tutor will be an essential resource for you throughout the application process. Applying to medical school can be a complex, tedious, and generally exhausting process, and the tutors would like to be of assistance. We are especially fortunate to have a staff of resident and nonresident tutors with a wide range of backgrounds and interests. Seek this person out to discuss problems or concerns, accomplishments or ambitions, and *anything* else. Not only are these tutors generally helpful at providing advice and encouragement, but their composite recommendation, the "Dean's Letter," is an essential part of your medical school application. The current members of the Winthrop Premedical Advising Committee are listed in the front of this handbook. Feel free to contact *any* or all of these people for advice and information pertinent to their fields of interest.

If you do not have a pre-medical tutor you should contact one of the resident tutors. You will be asked to submit a completed "pre-med registration form" in order to be paired with a tutor.

Please email winthroppremed@gmail.com to obtain a pre-medical registration form.

Please realize that non-resident tutors are busy professionals, and they receive no remuneration for their advising here. They have sought this job because of their interest in you. They genuinely welcome your calls, but they also appreciate your consideration of their time constraints. If you encounter difficulty in contacting your tutor after several attempts, please contact your resident premedical tutor, and we will try to reassign you to someone with more availability.

Our Job

Our pre-med tutors seek to inform you about and assist you with three primary aspects of the application process.

First, we hope to help you confirm your decision to enter medicine. At times it may seem that your tutor is challenging your motivations or playing "devil's advocate." Do not interpret this as a lack of support for you as a candidate. On the contrary, we are generally very happy that you are interested in a medical career. The real question, however, is whether *you* are likely to be happy with your decision. Anyone who is contemplating spending all of their twenties, $250,000, limiting travel and hobbies, and risking the development of their personal relationships in order to stay up at night drawing blood, filling out forms, and worry about sick people – *any* such person – needs to make this decision very, very carefully, and therefore we try to help you consider the alternatives. As we noted, the decision to go to medical school will impact your life massively -- it needs to be discussed thoroughly with your tutors, your family, your significant others, and anyone else *well before* the moment of writing your application essay. "Why do you want to be a doctor?" will be the most important question for you to answer *thoughtfully* in your application and interviews. You will ask *yourself* the same question many times during your training and you need to have a good answer.

The second aspect of our advising is to assist you in preparing yourself for medical school. Since you will be facing stiff competition for admission, we will need to review your course selection and grades with that in mind. In addition, we will help you find ways to broaden your extracurricular medical exposure. We can often put you in touch with people in medicine with whom you can work, or we can suggest the best ways of going about finding such people yourself. We are also happy to have you visit our jobs/schools with us.

Finally, your tutor will write the initial draft of the all-important Dean's Letter. In order to do this appropriately, it is crucial that your tutor *actually knows you*, what makes you tick, and is familiar with the aspects of your life that are relevant to your application to medical school. *Keeping in touch with your tutor is the best thing you can do for your application!*

Your Job

This Handbook is only a guide to help you on your path toward medical school. It does not pretend to be a formula for gaining automatic acceptance. ***The responsibility for organizing yourself and getting into medical school rests with you***. Here are the basic requirements:

1. Knowing details of the medical school application process. *We cannot remind you personally of all responsibilities and deadlines!* The information is provided in this Handbook and also on the American Medical Colleges Application Service (AMCAS) web site.

2. Executing this Handbook's requirements for *all* deadlines, **ON TIME!**

3. Attending the Winthrop House premedical meeting each semester.

4. **Keeping your tutor informed** of major developments in your plans. This point deserves special emphasis. It is your tutor's responsibility to be reachable either directly or by message within a few days. He/she will attempt to meet with you at least once per semester. **It is your responsibility to facilitate this meeting and to contact your tutor** at least one other time during the semester to fill him/her in on your plans and how they are coming along. *Your tutor must know you to be able to write an effective Dean's letter!* Medical schools stress this point to us repeatedly!

5. Looking out for pre-med announcements in your email, Throptalk, etc. Notifying us EARLY of ways in which we can improve our service to you.

6. Independently seeking other resources at this university (i.e. through OCS) or elsewhere to get advice and/or assistance when needed.

7. Staying in touch with your tutor or one of the resident pre-med tutors of your plans after the application process is over.

With these few things in mind, we look forward to working hard with you to make this process a successful one!

Academic Preparation and Grades

Course Selection

Selection of the appropriate premedical courses is clearly the first order of business. As you may already be well aware, medical schools require a year of English, one or two semesters of math including at least one semester of calculus, and a year each of biology, inorganic and organic chemistry, and physics. Most of the details with respect to Harvard courses are very well summarized on the OCS web page (http://www.ocs.fas.harvard.edu/medical-health).

Because, in our experience, there are a number of additional questions you may be asking yourself, we add here the following points: (Please note, however, that medical school requirements change continuously. It is up to you to check the details on the OCS website and in the Medical School Admissions Requirements Handbook, as mentioned on Page 1).

1. The college math requirement varies between medical schools. Some schools will accept math AP credits with scores of 4 or 5, while others will not. In general, one semester of college-level calculus is required by all schools but some schools require an additional semester of calculus or of statistics. It is advisable to look at the list of math requirements, as posted on the OCS medical school web page to get a sense of what is required by different schools.
2. The English requirement may be satisfied by Expository Writing plus the standard Harvard core curriculum.
3. Several medical schools like extra biology, so it is not a bad idea to take an additional year of biology such as MCB52 and MCB54.
4. It is generally <u>not</u> a good idea to take many medical school-type courses (see below) while an undergraduate since this is your last chance to study in other areas. In some cases, however, and particularly if: a) you are a non-science major and you wish to add to your science background or b) you need to beef-up your science GPA, it is reasonable to take some additional courses before entering medical school. Additional courses that would be most strategic to take in these situations would be (in rough order): biochemistry, genetics or physiology, biostatistics, immunology, anatomy, and histology/pathology. This ordering is based on the likelihood that the course will help provide preparation for subjects that are usually difficult in medical school. Often, these courses are particularly respected by medical schools for this reason.
5. If you are a potential MD/PhD candidate you should take the appropriate courses to prepare yourself for each degree viewed separately.
6. All basic premedical requirements should be completed, or nearly completed, at the time of taking the MCATs (usually spring of junior year if you are not planning to take time off).
7. Any of the premedical courses may be taken over the summer or at another university but most students should limit the number of such courses to one or two. Special circumstances do exist however, and you can discuss this point with your tutor. Although medical schools generally view summer courses as being ‘easier’ than term-time courses it is certainly preferable to get a good mark in a summer course than a poor mark during the regular school year. Students who are particularly concerned about organic chemistry, or about hard science courses, may wish to choose this option.

8. Premedical and concentration courses should never be taken pass-fail. Medical schools look closely at your science GPA when making admissions decisions.
9. It is very important that you do well in both your pre-med and non pre-med courses as an undergraduate student. ***GPA is the single most important factor in determining admission to medical school. You should be aiming to keep a B+ average or above as medical schools will rarely look at applicants with a GPA less than 3.3.*** If you are struggling to keep your grades up you need to try and address this problem quickly. If the problem is academic then talk to the tutors at the Bureau of Study Counsel (http://bsc.harvard.edu) about getting tutoring help or learning new study strategies. Acknowledging that you are struggling in a course early and contacting the BSC for a tutor earlier rather than later in the semester can make a huge difference in your understanding of the material and eventual final grade. If the problem is motivational, you need to ask yourself whether a career in medicine is really what you want. Either way, please be aware that keeping a good GPA is critical to getting into medical school. The reasons for this are simple to understand. Medical schools are looking, above all, for people who are reliable and conscientious. Your GPA is a direct indicator of how conscientious you are and it indicates whether you can handle the challenging material that will be taught medical school.
10. *Further notes on grades:* **a *science* GPA of below 3.1 (a B) will make it difficult to obtain a place in medical school.** The trend of your grades is also very important. Realize that your sophomore and junior year grades are somewhat more important than your freshman grades. One C- is not lethal, especially if this happens early. Medical schools are often willing to take into account that there was a period of adjustment early in your college career if your subsequent performance shows an improvement. **We have increasingly found that many students are simply not considered if they have a low GPA.** There is still hope for you to go to medical school, however! Taking time off (i.e., one or two "gap years") can help improve your application dramatically.

It is reasonable in some cases to consider delaying one's application by one or two years in order to take another few science courses—ideally as part of a post-baccalaureate program—can significantly strengthen your GPA and your overall competitiveness. These options should be carefully reviewed with your tutor if your record is weak. Ultimately, nearly 85% of Harvard premedical students are eventually accepted to medical school (as compared with roughly a 40% national success rate) so good strategy and dogged persistence is very likely to pay off.

To prevent a poor record in the first place, avoid taking courses that are too advanced. It is important to make sure that you always have a realistic shot at a good grade, and that you don't underestimate the background requirements of a course. In addition to the risk of a poor grade, overextending yourself puts you at risk for failing to master the basics, which will be important for the MCAT and for medical school.

Take care to avoid work-overload whenever possible. This includes **careful management of extracurricular activities**. Of course, one of the wonderful things about Harvard College is the abundance of such activities, so take care to balance these aspects, even if it means taking a little longer to satisfy all of your degree requirements.

Letters of Recommendation

In addition to taking care of your coursework and setting up extracurricular experiences, rounding up letters of reference (recommendations) is one of your other early, and very important, pieces of business. The strength of your letters runs a close second to your GPA in importance to your application. For this reason the Winthrop premedical letter packaging system is highly organized.

One of the unique features of the medical school application process at Harvard is that your letters of reference will be submitted to the Winthrop resident dean's office, not directly to the medical schools, and we will then forward them to the medical schools on your behalf. There is a specific reasons for this system (discussed below), but one major advantage is that *you can request letters of recommendation at any time, not only when you are ready to apply to medical school.* If you have a wonderful sophomore chemistry TF and you want a letter from him or her, then you can request the letter right when the course ends and you are still fresh in their mind. It will be waiting in your Winthrop House file when the time comes to apply to medical school. **MD applicants should aim for 3-5 letters, while M.D./Ph.D. applicants should aim for 4-6 letters total.**

When the time comes for you to submit your medical school application we will submit your Dean's Letter. The Dean's Letter is actually a fancy-looking package consisting of a Winthrop House cover-letter, written by your pre-medical tutor with help from the resident pre-medical tutors and resident dean, and full copies of all of the letters of recommendation that you have requested to be sent to your file here at Winthrop. The cover letter provides a well-rounded impression of you, drawing from your letters of recommendation, your AMCAS application, and your resume, as well as from our personal knowledge of you over two or more years. Therefore, close contact between you and your tutor, as well as the careful procurement of supportive letters of recommendation are *extremely* important.

Letters or recommendation may be solicited from anyone who knows you reasonably well. Character references are useful but academic and occupational evaluations are even more important since the House letter can substitute for the former considerably better than for the latter. We recommend obtaining a total of four to five letters from TFs, professors, research or project mentors, employers, etc. that comment on your strengths as a student or employee. Including more than five letters is *not* advisable and may result in admissions committee representatives skimming over your letters, rather than reading them carefully. Note that academic references are more important than employer letters and constitute the core of your letter package. At least two references should be requested from individuals in science-related fields. If you wrote a senior thesis, you should strongly consider getting a letter from your thesis tutor. It cannot be stressed too strongly that a *detailed, insightful commentary provided by a person who has come to know you well is superior to any number of superficial laudatory remarks from a passing acquaintance*, even if he/she is of higher academic rank. Of course, all else being equal, professors' letters are especially desirable. One successful strategy is to have the letter written by the TF and cosigned by the Professor. **Note that it is strongly recommended that letters from TFs be written on departmental letterhead and co-signed by the course professor.**

Sophomores should start mapping out plans for establishing relationships with people who can write letters for them. People who you may already know from freshman year and with whom you do not anticipate further work should be approached *now* to write letters, before they forget the "little pearls" about you. If you have questions about how to go about seeking letters, have a talk with your tutor. One important point can't be stressed too strongly: don't ask for a letter without spending the time to first meet and talk with your recommender. Often times, students receive tepid or “lukewarm” letters from teaching fellows and advisors who do not know them well. These can be quite damaging to their application. We are not allowed to reveal the contents of your reference letters so we cannot exclude unflattering letters. It is your responsibility to ask only those professors or teaching fellows who know you well, and who also can speak thoughtfully about your aspiration to attend medical school. You can help yourself by asking a potential advocate if they would “feel comfortable” writing you a “*thorough and thoughtful* letter of recommendation.” Most people will answer this question honestly, and you can then be comfortable knowing that the letter will be supportive.

Once you have identified individuals who are comfortable with writing you a thorough and thoughtful letter of recommendation, you might offer to provide these individuals with a list of relevant accomplishments, conversations, and any other information not described in your CV that would help your recommender include specific details and anecdotes in the letter. This could be done in a one-page, bullet-point form document. In addition, it is a good rule of thumb to always sit down with a recommender outside of class so they have an opportunity to learn more about you and so that you can answer any questions they may have about supporting your candidacy for medical school.

Because you have the legal right to examine your school file (as per the Buckley Amendment, 1974), and could <u>theoretically</u> ask to see your reference letters, you must sign a waiver of this right. You do this when you fill in the ‘Request Form for Letters of Recommendation,’ which you give to each of your letter writers before they write your letter. The advantage of waiving your rights is that medical schools place greater faith in the content of the letters. Not waiving your rights is an option but is <u>not</u> advisable. Often, this waiver allows your recommenders to be more candid, personal, and enthusiastic in their letters and for medical schools to trust their opinions.

Finally, remember that however well intentioned your letter writers may be, an amazing number will forget your requests...repeatedly! Therefore, an early start and a healthy, polite persistence are essential to getting your letters submitted in a timely manner.

Extracurricular Experience

It is well known that extracurricular activities are important to your medical school application. Although they are generally less important to medical schools than your grades and letters of recommendation, they may be much more important to you personally and can be crucial in distinguishing you from other applicants. Your self-designed extracurricular experiences can be essential in shaping your understanding of what a medical career entails.

Relevant experiences can be very diverse; there is no "formula." There are, of course, certain types of activities that have been found to be valuable by those preceding you. These fall into three broad categories: people/service-oriented experiences, clinical research, and basic science research. It is nice, but not necessary to have some of each. Clearly, those interested in natural science MD/PhD. programs and other heavily research-oriented pathways should have solid basic science research experience. Even these people, however, should not neglect the value of having personally served other people when it becomes time to answer the question "Why not just a PhD.?"

The exact amount of time you commit is not critical, but it can be difficult to have a really useful experience in fewer than four or five hours per week (of course this will vary significantly based on the activity). Significant time spent above and beyond other work commitments is appreciated as being an indicator of your level of dedication to this career. The work does not have to be in an explicitly medical setting, although medical settings do have some obvious advantages in terms of more accurately demonstrating what a career in medicine could entail. These settings are also typically more useful for obtaining persuasive letters of recommendation from medical professionals.

Your work can be as volunteer or employee—it makes no difference—however, it is important for you to be an *active* participant, not just a passive observer. Use the opportunity to really meet people, patients, and health care providers and *learn* about what is going on. Ask questions! A few really good experiences can make your medical school essays and interviews go much more smoothly.

These types of experiences can be had at any time. College summers are obviously well-suited for this; however significant high-school experience may count, as do term-time extracurricular activities, and certainly years taken off after college before applying to medical school. It is to your advantage to start early because medical schools are very wary of applicants who seem to have made a hasty, last-minute decision.

That said, **most important in choosing extracurricular activities is that you follow your interests and find things you enjoy.** This makes excelling easy. Medical schools will be highly interested in extracurricular activities that you can describe with authentic enthusiasm and that reflect you as an individual. While medical schools generally would like to see that you have had some exposure to the field of medicine (how else can you know a career in medicine is right for you?), this should be viewed as an opportunity to explore a future field rather than a tedious box to check. If you find that you do not enjoy any of your medically relevant experiences it might be

prudent to re-evaluate your career plans or, at the very least, continue to explore. The earlier you get into a clinical setting to volunteer, the earlier you can begin to get a feeling for whether medicine is really the right choice for you.

Clinical/Public Service

- Homeless shelters, e.g. Pine Street Inn, Rosie's Place, Long Island Shelter
- Peace Corps
- Phillips Brooks House Programs
- Hospital clinics and hotlines, e.g. rape counseling, drug addiction counseling, crisis intervention, AIDS counseling, Health Care for the Homeless, Bridge Over Troubled Waters
- Hospital inpatient services, e.g. emergency room or surgical orderly, patient transportation, book/magazine cart service, musical performances for in-patients
- Shadowing a practicing physician at the office and/or hospital
- Training to become a paramedic (emergency medical technician) or other medical technician, e.g. EEG, Radiology, Orthopedic technician.

Clinical/Epidemiological Research

- Helping hospital researchers run trials of new medications, techniques, and interventions.
- Studying and helping to design more effective health care delivery systems, for example in underserved rural or inner city settings.
- Helping in any type of clinical medical laboratory to collect and analyze data on patients, e.g. cardiovascular or hypertension screening, neuropsychological testing, studies in geriatric (elderly) or rehabilitation medicine.

Basic Science Research

- Virtually any type of supervised scholarly scientific research is wonderful. Your project need not have direct clinical applicability to be acceptable. More important is its quality and depth. In general, it is preferable to spend at least one year on a single project rather than try to do several projects for shorter periods of time. January term is a good time to begin a research project because you will have several weeks to become acquainted with the laboratory, learn the basic experimental techniques, and hopefully acquire a level of independence by the conclusion of J-term. This strategy may make it easier to continue the project during the Spring term and the subsequent Summer.

Resources to get you started include:

1. Local or home-town physician
2. The members of the house premedical committee often have ideas and "connections" in the Boston area; ask us!
3. This Handbook has a list of Winthrop's Non-Resident Tutors who have indicated whether they are interested in having students shadow them in the hospital.
4. Office of Career Services has general listings of job and volunteering and opportunities. In addition, it has a list of Harvard Alumni in medicine who have expressed an interest in talking to premeds
5. Radcliffe Internship project.

6. University-based summer clinical and/or research programs, see OCS for listings.
7. Home-town or regional Harvard Clubs can help you find practicing Harvard Alumni.
8. Direct contact with the volunteer offices at Harvard affiliated* and other hospitals is very simple and often very effective. [* Massachusetts General Hospital, Brigham & Women's Hospital, Children's Hospital, Beth Israel Deaconess Medical Center, Faulkner Hospital, New England Baptist Hospital, McLean Psychiatric Hospital, Cambridge City Hospital, Mount Auburn Hospital, University Health Services. Boston Medical Center and Tufts can also offer unique experiences.]
9. Email or telephone. Yes! Email or call a Harvard-affiliated M.D. in an area that looks interesting, politely introduce yourself, and simply ask whether he or she happens to need a bright, enthusiastic and cheap mind and pair of hands to help out with a project or has time for an informational interview. If not, then does he or she know of any colleague who might? Although one will likely find many dead-ends, a little patience and detective work will likely net you a very interesting job.

Health and Medical Career Alternatives

Once you are organized in your path toward medical school application, take some opportunities to consider other alternatives before finalizing your plans. In most cases the rigorous nature of your pre-med curriculum will put you on course for any number of related fields, should you at any point decide to shift direction. You may still wish, however, to supplement your pre-med curriculum while you are here at Harvard with other courses in order to add some other dimension of expertise.

For many, the choice of medicine as a career objective is a knee-jerk response to the basic desire to be able to apply one's technical, and especially scientific, expertise to help other people. Before firmly committing to this pathway, however, look very carefully at some of the many other challenging and rewarding alternatives to strict MD programs. Many avenues bypass the MD completely, while others incorporate the MD into dual-expertise careers. Each alternative entails a different mix of responsibilities, time commitments and flexibility, costs and eventual salary potential, length of training period, degree of patient contact, and day-to-day concerns. All, however, fundamentally contribute to the health concerns of people. There are many people in these careers who are very satisfied with their jobs and lifestyles.

It is only the prescription of drugs and the performance of a certain set of specialized procedures for which doctors are uniquely qualified or entitled. Virtually all other aspects of patient care, from various types of hands-on therapy, counseling and education, study and diagnosis of medical problems, design and administration of health care systems are being addressed by other sectors of the healthcare system.

Doctor of Osteopathic Medicine (DO) is an internationally recognized medical degree that is essentially equivalent to the MD degree. Becoming a DO is rigorous—like medicine, it is a four-year graduate-level academic degree. D.O.s are trained much in the same way as MDs, with the addition of osteopathic manipulative medicine techniques as part of their certification. In the United States, the DO and the MD are the only two degrees permitting licensure as medical physicians. Many DOs specialize in primary care medicine, internal medicine, or pediatrics, sometimes with more openness to using alternative or integrative medicine techniques. With that said, some DOs elective to excel in more traditional medicine, also apply for advanced training in critical care medicine, cardiology, and even surgery. There is no “limit” to the degree, and for some students who have lower college GPAs, for example, the DO offers an opportunity to begin in medicine with a clean slate and essentially the same career opportunities later on.

Doctor of Dental Medicine (DMD) is the degree awarded to dentists, and is a wonderful career path for students interested in medicine and procedures. Modern dentistry is virtually a surgical subspecialty in that the training includes study of the entire body with respect to anatomy, physiology and pathology but then efficiently zeroes in on a particular region of interest. Dental school can be just about as demanding as medical school, and can be followed by optional residency training in subspecialty areas. Research is also very active in areas including biomaterials, hygiene and preventative care, anesthetic techniques, infectious disease, and bone

biomechanics. Demand for dentists remains strong and lifestyles and incomes are attractive. If you are interested in dentistry or have more **questions, feel free to contact your resident tutors.**

Nurse Practitioners (NPs) and **Physicians Assistants (PAs)** are increasingly taking on many of the patient-care roles traditionally played by doctors. NP training takes three years with no residency requirement at the end of it. NPs can see patients independently, prescribe medications, and perform many of the same primary care roles as doctors. They may specialize in particular areas of medicine such as obstetrics and gynecology or emergency medicine. PAs work in conjunction with doctors, often in a hospital setting. They function as junior doctors, taking care of patients under the supervision of an MD. Examples of PA jobs include taking care of cardiac surgery patients while the surgeons are in the operating room, taking care of cancer patients on their routine check-ups, and seeing patients in the emergency room. PA training takes between two and three years and there is no residency requirement. Both NPs and PAs earn very competitive salaries and their roles in the US health system are expanding rapidly. Their employment also usually affords much more control of their time than physicians, which often allows for better work-life balance.

Clinical psychologists and **social workers** are integral components of modern medicine. Each field can lead to a broad array of positions, and psychologists and social workers may work as part of medical teams, in dedicated mental health settings, or in independent practice. Talk to these people about their choice of careers.

Genetic counselors increasingly function as important members of the health care system. Genetic counselors work with patients/families who have genetic disorders or birth defects interpreting patient/family histories, educating patients on available diagnostic or therapeutic options, and serving as counselors to help families make informed choices about their condition. Genetic counselors receive a master of science degree in genetic counseling and have the opportunity to lead engaging, impactful careers with significant opportunity for patient interaction and application of biological principles.

Experts in **hospital administration**, **hospital information systems** and **clinical laboratory science** involve much less direct patient contact but utilize high-level technical skills and are now in increasing demand. A number of physicians find themselves eventually drawn into administrative positions because of the leadership opportunities of these positions. This has spawned a group of professionals who enter these fields without the MD, having instead more specialized training in business administration, finance, computer and information technology, clinical laboratory science, or pharmacy and who then move directly into leadership positions. While the MD would in no way be a liability, it is clearly not a necessity in this age of increasing specialization. Those with a business bent should at least consider such a path. Talk to some Harvard Business School Professors specializing in health.

Pharmaceutical science, **biotechnology,** and **biomedical engineering** are clearly the keys to the future of medicine. From artificial organs, new diagnostic devices and tests to better drugs, high-tech research is full-time job. Despite the growing pains and problems associated with new technologies, there can be no doubt that the positive impacts of MR scanning, dialysis, or synthetic

insulin are almost immeasurable. Whether as an employee of a large high-tech firm, or as an independent entrepreneur, these areas can be very challenging and rewarding ways to go. Again, the MD is certainly no liability, but it is not necessary and is often less valuable than an appropriate PhD.

Public health science, public health policy and planning, medical economics, and **ethics** are areas of obviously burgeoning importance. Making an impact on a population levels involves physicians, dentists, nurses, social workers, and technologists operating within a broad healthcare system. Both economic and ethical questions will continue to occupy center stage here and throughout the world. Grappling with these questions is vitally important and does not require an MD.

Finally, **veterinary medicine** offers a very different but remarkably challenging and rewarding alternative. For those with a clinical bent, it shares some features with medicine in terms of the relationship between the doctor, family, and patient. Moreover and quite significantly, it allows one to perform both as a physician and as a surgeon. Additionally, animals suffer from many of the same disorders which afflict humans, from diabetes and heart disease, to cancers and of course all types of infections and traumatic illnesses. The basic physiologic and anatomic principles are very similar and there is room for research. Furthermore, veterinarians do not only practice in rural areas, and fairly lucrative urban practices can be established.

Pathway Options: Combined Degrees

There are, to be sure, many excellent reasons not to spend the rest of your life in school accumulating degrees. Chief among these is the sheer amount of time that you will spend studying before actually getting out into the "real world." On the other hand, those of you with a strong interest outside of basic clinical medicine, may consider entering a dual degree pathway. An MD/PhD is a stepping stone into a career in academic medicine while the MD/MBA, MD/JD, and other combinations can be foundations for exciting and unconventional careers in health policy, forensic medicine, healthcare management etc. Finally, some universities to offer combined programs in which a PhD. can be obtained in a non-scientific field such as history, anthropology, mathematics, or economics with similar benefits in terms of career novelty and interest.

An advantage of a combined degree program is that joint funding can sometimes be obtained. An example of this is the Medical Scientist Training Program (MSTP) that pays for students doing joint degrees in medicine and basic science research. Although the financial bonus is attractive, those involved in MD/PhD. programs will tell you that commitment is too great and the curriculum too demanding to consider pursuing for financial reasons alone; it is essential to have a genuine desire to attend graduate school. Furthermore, the long-term financial loss from starting ones earning years later generally more than offsets any financial gain from having ones medical school years funded. Additional attractive features of dual-degree programs include the opportunity to do all of your training at one institution, the possibility of shortening the programs by a year, relative to doing the degrees separately, and the integration of training for both degrees throughout the program, which many programs offer. For example, an MD/MBA. at Harvard takes five years, as opposed to four years for the MD and two years for the MBA. if taken separately and offers the chance to integrate MBA-relevant coursework into one's medical years more easily.

For all dual degrees except for the MD/PhD, it is quite reasonable and common to wait until one is enrolled in an MD program in order to consider other options, such as an MPH or an MBA. Typically, students pursue this option between the 3rd and 4th years of medical school, so there is plenty of time in the 1st and 2nd years to talk to advisors and learn about whether this is a good option for you. Several of Winthrop's pre-med tutors are pursuing dual degrees, and so a conversation at this stage with any of them would help give a sense of what the decision process is like.

Don't forget that it is reasonable to proceed with an MD and wait to pursue another degree until after medical school or residency. In general, applying later, as an established physician, does not impair and may even enhance your chances of being accepted into graduate school. In addition, various sources of financing are available to physicians planning further research or study.

With respect to the sequential (non-integrated) dual-degree approach:

Pros:

- You are able to defer your decision about a second degree indefinitely and can drop the plan altogether if you decide to do a clinical career
- Your residency (including being frequently on-call) is completed at a younger age

- You can "moonlight" in order to earn money extra money while in graduate school
- If your second degree is in a fast-moving field, your training will be more state-of-the-art the later it is done

Cons:

- Medical school will not be paid for you (in the case of MD/PhD)
- You will have to do classroom work at an older age
- If the second degree involves more than a year or two of work away from clinical medicine, it may be very difficult or impossible to maintain clinical skills, particularly in surgical fields

MD/PhD Programs

The pursuit of an MD/PhD is not a trivial undertaking. Prospective students must be dedicated to research in their chosen field and prepared to happily spend years (four to five in most programs) working independently in lab. That said, the chance to pursue a PhD is a wonderful one and the research years can serve as a nice break in ones medical training (more on the structure of MD-PhD programs below). Additionally, the timing of the PhD provides the rare opportunity to pursue dedicated research without many of the distractions of adult life (family, work, earnings constraints, etc.). It should also be kept in mind that the importance of a PhD is not simply found in the technical expertise or knowledge acquired. Rather it is in the learning of the method and discipline of science, that is, how to do research well. The chance to pursue a PhD with dedicated time to become an expert in your field and the chance to advance knowledge is a wonderful one, but a decision that should not be made lightly.

Many universities offer some type of combined MD/PhD program. The types of PhD that can be combined vary considerably from institution to institution. Some institutions only offer PhDs in scientific fields while others are more flexible. You should plan to research each program individually at OCS where considerable program documentation is available.

Here are some general points:

- With regard to structure, most MD/PhD programs arrange for a student to take off from medical school between 2nd and 3rd years (after the preclinical part of medical school) to do the PhD. One then returns after three to six years (usually four) to begin the clinical portion of medical school. Normally the student is awarded both degrees together upon graduating from medical school after a total of seven to ten years (the general expected time to graduation is eight years).

- Prospective MD/PhD candidates should be especially intent on getting as much undergraduate research experience as possible prior to applying. Note that it is the depth and quality of the research experience that is of greater importance than the particular problem dealt with. It is important to begin to take intellectual involvement in and ownership of your research as schools will be interested in your capability as a *scientist* and future lab head. Letters of recommendation from your research mentors are especially important in the admissions process. Many candidates will have done work sufficient for

authored or co-authored research publications or at least have such work in progress before they apply (although this is by no means a requirement to be a competitive applicant). The competition is reasonably stiff, though Harvard students often do well when they apply.

- Most schools (especially MSTP funded programs) do not require separate PhD program applications when you are applying to the joint MD/PhD program. A few schools, however, require a formal PhD application to be submitted at the same time as your application to the medical school.

- Inquire whether the MD/PhD programs you are applying to require GRE exams in your PhD area. Most do not (at least on initial application) if you are planning to train in the biological sciences but it is best to inquire in advance.

- If you are thinking about this option you should contact the Pre-Med Resident Tutor Eric Bent (ehbent@gmail.com) – he received his M.D./Ph.D. at Harvard Medical School.

- More information on programs and the dual-degree in general can be found at: https://www.aamc.org/students/research/mdphd/

MD/MPH, MD/MPP, and MD/MBA

Many people who enter medicine with the idea of wanting to "do something for people" come to realize that physicians may have a limited potential to change large health care delivery systems. While an individual physician may make wonderful contributions to the lives of several hundred, or even a few thousand individuals, some desire a broader scope of focus.

For these reasons, some choose to augment their medical training with a Masters degree in some area of more global applicability. A Masters in Public Health (one year), with its focus on epidemiology, can be very useful for those who wish to undertake clinical studies assessing the impact of a medical intervention or environmental hazard or occupational safety guideline on the well-being of the general population. Currently, there are many programs conferring MPH degrees, and many are associated with medical schools. Because of the relatively small time commitment, students can consider adding an MPH. before, during, or after medical school with little significant complication and should typically apply separately to such programs when ready. Additionally, there is often funding available through residency programs or post-graduate fellowships for physicians to pursue an MPH after receiving their MD. If you are interested or have more questions, feel free to get in touch with one of your Resident Tutors.

Those who seek to influence health care through government policy, may find a Masters in Public Policy, such as that offered by the Kennedy School of Government at Harvard, quite valuable. These one to two year programs provide an intensive introduction to quantitative techniques for evaluating and designing effective large-scale health policy. There are currently about ten programs leading to MPP degrees. Application to these would typically be made separately from the medical school application. Finally, those who are interested in hospital or HMO (Health Maintenance Organization) administration and healthcare management, or in entrepreneurial ventures, will find an MBA (two years) a very valuable additional degree. These programs are

generally separate from the MD programs and most students apply while they are in medical school or residency. However, several programs are now offering five-year joint MD/MBA degrees (Stanford, Pennsylvania, Yale, HMS, and BU among others; every year the list keeps on growing). Because these joint degree programs require only one additional year (rather than the typical two-year MBA program), they have become very popular. An MBA provides an education in fundamental management concepts – including strategy, economics, finance, marketing, operations, and more. These skills are highly valuable to individuals who see themselves as prospective leaders in a wide range of healthcare organizations. If you are interested or have questions about the MBA, MPP, or MPHS, feel free to contact Danny Lage, a current HMS student who pursued an MSc and MBA at Oxford before coming to HMS (dlage89@gmail.com).

MD/JD

An MD/JD is an intense combination that affords a very unique vantage point. It is a useful background for government and administrative work as well as being of obvious advantage in examining the rights of the mentally and physically incapacitated and in malpractice issues. The University of Chicago, Duke, and Penn all offer specific MD/JD programs, and the number of medical schools around the country introducing such tracks is growing.

One Final Word

Ultimately, the decision to pursue another degree is a very complex and personal one that must take many factors into account. Certainly, it is a decision about which you should feel very comfortable before investing such tremendous time, energy, and possibly money. During the process of deciding, try to keep as broad a perspective as possible. It is your career and it is not necessary to follow well-trodden paths. There are many physicians before you who have ventured down unusual trails and you can find interesting and exciting things to do with your career in almost any direction. Your tutor will always be happy to explore these options with you.

Part II: Application Preparation Package

A Few Words for the Wise

The application to medical school is just the first in a long series of applications, tests, and interviews that will punctuate your medical career. Therefore, it is definitely in your best interest to maintain or to cultivate good application habits. One key thing to learn is how to minimize the stress of the process. Almost uniformly this translates into being **early, Early, EARLY!** Organization is key; developing a flowchart of tasks and dates is often helpful.

For your own benefit, and to avoid last-minute backlogs in the House Office, the Winthrop House pre-med schedule is aggressively early (see the timetables in Part III). Our experience is that ***applicants who get their applications submitted to medical school early do substantially better*** in the admission process than applicants who submit their materials close to the deadline. Many medical schools conduct rolling admissions, and even those that do not seem to favor applicants who apply in a timely fashion.

Family Finances

Once you've polished off the MCATs, or indeed perhaps before, it's high time for a family chat. While there are many excellent reasons to converse with your family, financial considerations will now be pressing. Like it or not, medical schools view your application as coming from a family team. Medical schools will almost never consider you as financially independent from your parents -- even if Harvard College has chosen to view you separately! It is therefore quite important for you and your parents to have some sort of agreement, in advance, about which schools are acceptable. State schools are usually the least expensive option. Private schools have higher tuition but they may also have may have better financial aid packages, depending on the size of their endowment. Starting these conversations early (spring break or even Christmas of Junior year) will give you time to research schools and give your parents time to consult with financial advisors about long-term financial arrangements.

There is no way to detail here the complexities of medical school finances. This is really a job for you, your family, and a financial adviser. Note that this applies regardless of family income. Even for the very wealthy, there may be financing arrangements that are more or less advantageous. You may want to consider current and future tax write-offs, possible income-averaging, intra-family loans and gifts and long-term debt management details. These options should be investigated early, well before the acceptances arrive at the end of senior year.

OVERVIEW

The annual dollar cost for a private medical school is approximately $70,000, including living expenses. The most common financing arrangements are:

- Medical school financial aid package consisting of loans +/- scholarships. These packages typically rely on additional support from the student and family.

- Direct parental/family outlay, with or without student return obligations.

- Special outside sources of scholarship or loan money such as merit scholarships. These are rarely sufficient to cover costs.

Additional Notes:

- Intra-family loans can often work out to the benefit of the entire family as there is no interest paid to an outside body.

The vast majority of medical students will use a combination of family assistance and loans to pay for medical school. For these students, the medical school will calculate a "Standard Student Expense Budget" that includes tuition, fees/books/supplies, housing, food, transportation and a certain number of miscellaneous expenses. The medical school then attempts to meet the student's financial need through a combination of family contribution, scholarships and loans. Many schools determine a "unit" loan per student per year, typically in the range of $25,000-$30,000/year. All students who are eligible for financial aid are offered the unit loan and then any remaining need is met through a combination of family contribution and scholarship. Some schools, however, have scholarship money whose allocation is based on "merit" and not on need. The details of these scholarships need to be investigated separately for each institution.

In order to plan your short-term finances wisely, you need to have a sense of the long-term implications. The average medical school graduate in the class of 2014 owes $180,000. Note, of course, that this is only an average. Repayment schedules can extend as long as thirty years, usually with a partial deferral of repayment during the first few years of residency. Interest rates are low at the moment, which makes repayment easier, but this is subject to change with economic conditions. Repayment schedules are highly variable, with payments that can range from approximately $300 per month to over $2000 per month.

Consider then, that the typical resident physician's after-tax take-home pay is about $3500 per month. (Residency and fellowship training last from three to seven years, depending on the specialty, so debt payments may have to be made during this time.) If we assume a debt of $180,000 with monthly payments of $1500, we have a monthly budget of:

Take-home pay	$3,500 per month
Loan repayment	-$1500
Housing	-$1000 (a very conservative estimate!)
Food -$500	
	$500

This leaves $500 per month for the following items:
Books, journals, clothing, entertainment/recreation, transportation, travel, car payments & parking, telephone, not to mention support of any dependents.

If this looks extremely tight, it is…

Enter moonlighting (working additional shifts at the hospital after completing year 2 of residency), continued parental assistance, assistance from a spouse, further borrowing. These possible scenarios should be carefully considered. It is extremely advantageous to minimize the amount borrowed and/or the rate of interest whenever possible.

Special funding sources should also be investigated. They include:

- unions to which you or your parents belong;
- employers with scholarship or loan programs for employees and their families;
- credit unions;
- local churches;
- fraternal organizations to which you or your parents belong;
- sororities and fraternities;
- local civic organizations;
- agencies administering programs for veterans and their children;
- agencies administering vocational rehabilitation programs;
- high schools and colleges with awards for alumni/ae pursuing post-graduate study;
- alumni chapters of the medical school that you will attend;
- local medical societies (NOTE: Your family physician may know if such funds can be made available);
- county medical societies and their auxiliaries;
- local hospitals and their auxiliaries;
- state and tribal programs for Native Americans

These need to be investigated individually. It may be a time-consuming endeavor and the awards may not yield a "free-ride", but if you can reduce your long-term obligation it will be well worth it. The family finance chat may be instrumental in locating some of these sources.

Finally, **some students may wish to investigate military scholarships** as another valuable, but significantly different, alternative. The cost to you financially is minimal although, with rising costs, military scholarship recipients may occasionally require loans to meet budget expenses not covered by the Armed Forces Health Professions Scholarship. The details of the service obligation are complex. If you are considering this route you should speak with the pre-medical staff at OCS.

The Medical College Admissions Tests (MCATs)

After you have begun to think about and arrange for your letters of recommendation (see Part I of the Handbook) the next major checkpoint is taking the MCATs. The MCAT consists of testing on the basic material required to start medical school. A new longer version of the MCAT was released in the Spring of 2015. The new MCAT includes a section on behavioral and social sciences in addition to the sections that previously existed. Please see the AAMC website (http://www.aamc.org) for additional information on this new version of the MCAT. Don't hesitate to reach out to one of your pre-med tutors if you have additional questions. The MCATs are required for admission to almost all American medical schools. Generally, the MCATs are an important but less crucial component of your application than your GPA and letters of recommendation. **You should aim to do well** but you don't need to get the best score in the continental United States in order to get into medical school. Similarly, getting a top MCAT score will not overcome a weak GPA. The most important thing is to be organized and to prepare yourself well. This includes doing a number of practice MCAT exams. If you have already taken the MCAT, remember that scores are generally good for three years before retesting is required. Some schools, however, require or prefer the newer version of the MCAT, so make sure to check each school's website and with OCS.

With the computerized MCAT format, students can now take the MCAT on a number of dates scattered throughout the year. Dates in the spring are certain to be the most popular so apply well in advance. Application is made online through the American Association of Medical Colleges website (http://www.aamc.org/students/mcat/). If you are taking the MCAT in the same year you are applying to medical school, then you should try and take the exam in April or early May, before the spring semester gets busy. **It is much less advisable to take the MCAT in the summer because your scores will reach the medical schools late.** Retaking the MCAT is also not advisable, so **don't take the exam until you are fully prepared.** If, however, disaster strikes and you have to re-take the MCAT then medical schools will usually look at an average of your MCAT scores so make sure you are confident of performing better the second time round. Two weak scores are hard to overcome. In general, it is okay to be taking the second half of either organic chemistry or physics at the time of your exam if you have completed the other basic premedical science courses.

The way in which you should prepare for the MCAT depends on your particular situation, and should be decided after speaking with your tutor. You should take at least a few practice exams to familiarize yourself with the coverage and format. Some organized review is always a good idea, especially of material that was learned more than a year earlier. Generally, students tend to overemphasize a content-based review of the relevant material to the exclusion of adequate practice questions (although knowing the content is also essential). A substantial portion of the test is *the format of the test itself* – so **do many questions (i.e., at least a couple thousand) beforehand** to help you feel comfortable on the big day!

There are two proven methods of review. First are the Kaplan and Princeton Review courses, which last four to fifteen weeks. They can help when taken seriously, but are expensive and only limited financial assistance is available. Other, less expensive options include online courses, as

well as online MCAT question banks that simulate exam questions. Finally, students can pursue a self-study method using study books available for $40 to $50 at local bookstores, Amazon, or eBay (Examkrackers gets very good reviews as a question book). If you have done solid work in your basic premed science courses and are generally comfortable with standardized exams then a self-directed review is likely to be adequate. If, on the other hand, one or more of your basic science courses was weak, or if you sometimes have difficulties with standardized exams, then Kaplan or Princeton Review should be considered. It is also important to consider that the self-study method *takes considerable discipline because it can be quite boring*. If you know that this is likely to be a problem for you, consider Kaplan or PR as a method of making you focus on the job. It is important to note that the MCAT will probably be unlike any exam you have taken before in its breadth and rigor and *significant* time is required to adequately prepare (4+ weeks at a minimum, with many students preparing for 8 or more weeks, especially if preparing during the semester or while working full-time).

Note: The MCAT has changed in format as of 2015. The exam increased to about 6.25 hours in length and is divided into four sections: "Biological and Biochemical Foundations of Living Systems," "Chemical and Physical Foundations of Biological Systems," "Psychological, Social, and Biological Foundations of Behavior (new section)," and "Critical Analysis and Reasoning Skills." Some general guidance that we have received from AAMC and OCS is, first, that biochemistry will play a bigger role in the new exam. Second, psychology and/or sociology could also be useful for the new section (e.g. SLS 20 at Harvard College). In general, however, the courses and study strategies that have worked for the previous MCAT will continue to be very useful for the new MCAT, but students, advisors, and medical schools will all have to adjust to the new format over time. Throughout this year, your pre-med tutors and OCS will continue to study the changes in order to better guide students through MCAT timing and preparation decisions.

The House Letter of Recommendation

Your pre-medical tutor, in conjunction with the resident pre-medical tutors and the resident dean, will write a House letter on your behalf to each medical school. Your tutor writes the first draft, but other members of the committee will contribute to the final letter. Since 2007, Harvard has been participating in an electronic reference letter submission system, the "Virtual Evals" system, that is used for nearly all MD, DO, and optometry schools. **For dental schools that are not participating in the Virtual Evals system you will need to submit stamped and addressed 9" by 12" envelopes to the resident dean's office so that your reference letters can be sent by mail.** Please contact OCS for a current list of schools not participating in Virtual Evals.

In order to start the House letter writing process, **the following items must be in your House file at the Resident Dean's office according to the schedule described in Part III of this handbook**:

- Three to five letters from teachers, employers, or other distinguished persons sent directly to the Resident Dean's Office. You must use the "Request Form for Letters of Recommendation" (available in the Resident Dean's Office) and indicate whether or not the letter is confidential. It is preferable to make the letters confidential (see Part I).

PLEASE NOTE: You must check with the Assistant to the Resident Dean regularly over the summer to determine when all of your letters have arrived. It is your responsibility to notify the assistant to the Resident Dean and your pre-medical tutor when your file is complete, so that work on your House letter can begin promptly.

- The "Release of Information Form" (available in the Resident Dean's Office).

- A draft of your Personal Statement. This is outlined below. Careful preparation of this essay will help prepare you for medical school application essays and interviews, and will help us write a House letter that does not omit something of importance.

- Resume. Deadline as listed in Part III of this handbook.

- "Winthrop Premedical Information Form" (in Part III of this handbook). Deadline as listed in Part III of this handbook (early April)

- Notify the assistant to the Resident Dean of your summer mailing address(es), phone numbers, and email. If we can't reach you, we can't help you! Deadline as listed in Part III of this handbook.

- A copy of your AMCAS application (available online in early June) -- which includes your major formal essay. Deadline as listed in Part III of this handbook.

- If you are applying to a school that does not participate in the 'Virtual Evals' electronic letter submission system, please provide 9" x 12" envelopes with the appropriate postage (consult the assistant to the Resident Dean for the exact amount) and addresses marked.

House Premedical Questionnaire (i.e., prep for the personal statement)

This is a practice run for your AMCAS essay (see below). We have compiled a list of common topics below, which are ranked roughly in order of their degree of importance to your medical school essays. *Please take this seriously* and do not begin at the last minute. We use it to help us draft your Dean's Letter and it is an excellent set of questions to think through before beginning your AMCAS essay. You should cover some, but not all, of these topics in your essay:

1. The origins and a brief history of your interest in medicine. That is, "why do you want to become a doctor?" (It is essential to explain this carefully to yourself and to the medical schools). It's especially helpful if you can share vignettes/anecdotes from your life describing situations or experiences that helped you decide that medicine is for you. You may also add thoughts about any special interests within the field, and any specific sort of career that you envision for yourself in medicine. The latter point does not call for a very specific discussion, as you cannot be expected to have decided this yet.

2. What recent particular experiences have convinced you that medicine is the right career for you?
   - working or volunteering in a clinical setting?
   - helping people in a one-to-one relationship?
   - having an exciting experience in science?

3. Academic experience: What led you to select your concentration? In what ways has it fulfilled, and not fulfilled, your expectations? What courses have especially interested you and why? If a non-science concentrator, how do you expect your concentration will contribute to your future development as a physician? If you will write or have written a thesis, discuss the development of your interest in this project. Please describe any mentors you have had in college and what role they have played in your life.

4. What is your background and personal story? Tell us more about yourself, your family, and where you grew up. Tell us something about where you come from and how your upbringing has impacted your goals in life. Who have been the most influential people in your life outside of school?

5. Share with us strengths and weaknesses that you know about yourself. What do you take pride in about yourself? Where are you pushing yourself to develop most as a person? What three adjectives best describe you?

6. Strengths in your history, especially those of which the Committee might not otherwise be aware (e.g., medically-related courses you have taken outside the sciences).

7. Scientific research experience, if any - this is particularly important for MD/PhD candidates: where, when, with whom, content, responsibility, and publications (if any).

8. Special weaknesses or problems presented by your record and background for which you can provide clarification or explanation (e.g., a "sophomore slump," a late decision for medicine, a bad test score in some area, etc.).

9. If you interrupted your college career or took time off from school for any period, describe your activities during that time. In what ways was this time valuable and important to you?

10. Employment: what term time and summer jobs have you held, and how many hours did you work? What did you gain from these experiences (other than income)?

11. Your personal interests, extracurricular activities, summer activities, hobbies, community service and family circumstances which clarify and broaden the personal picture of you. In what ways have these experiences been instructive and meaningful for you?

12. What do you see yourself doing 20 years from now? Where do you see yourself in your career? If not medicine, what would you choose to do with your life?

Deciding Where to Apply

Developing a list of medical schools to which to apply is one of the most important tasks of your application year, but it need not be very difficult. Contact your tutor to get some feedback about your list. The people who do not get in to medical school generally have overestimated themselves and failed to get advice about their list of schools. The following is a rough guide to organize your thinking.

Ordinarily there are four major considerations to be used in generating a list. First, it is as much the *distribution* of medical schools with respect to competitiveness level as the total number that is important. Everyone should have a healthy respect for the vagaries and vicissitudes of the medical school acceptance process. Experiences here and elsewhere clearly indicate that there is no such thing as a "shoe-in" or "lost-cause." Between 80 and 90% of recent Harvard applicants have been accepted to at least one school. Most likely, if you are serious and careful about the application process, you will be confronting the question "where?" rather than "if?"

Your tutor, the Medical School Admissions Requirements Handbook (please ask your pre-med Resident Tutor if you would like to access this resource), and individual medical school web sites can help you determine the category in which a given school probably belongs. It is quite reasonable and may even be desirable to add a few schools, especially at the higher end of selectivity, to give you an opportunity to do some additional shopping. If you are interested in a research career, getting into a more selective medical school can be important and hence it is to your advantage to pad your list with a few extra high-end schools that have more research prestige. That said, do not fail to include a number of **safe bets** on your list.

Second, think about whether you have any strong preference for geographic region. We would strongly encourage having an open a mind about this. Medical school represents a neat, organized block of time that can be used to explore a new part of the country with the knowledge that there will generally be ample opportunity to relocate if desired when entering an internship/residency program. On the other hand, be aware that each medical school has a regional "sphere of influence" such that, *all else being equal*, there is a comparative advantage in gaining access to internship/residency programs located near the medical school. The size of the sphere of influence is roughly related to a medical school's level of selectivity. Thus graduates from Harvard, Yale, Hopkins, UCSF etc. are, all other factors being equal, more readily selected by distant residency programs than those from less competitive schools. Although the selectivity of the medical school is an important factor in your eventual selection for internship/residency programs, it is in general less important than how well you do at your medical school. This will, of course, be primarily determined by the intensity and consistency of your work during your four years, and hence, by your overall happiness with the school environment and your basic level of motivation.

Common sense dictates that proximity to family and loved ones is an important consideration for many people and may figure into the selection of region. Those who are less competitive applicants, however, cannot be as picky about location. Since your career options are *much more strongly* determined by your residency program than by your medical school, the upcoming

application season should in no way be viewed as a "do-or-die" process. It should be approached with a positive and sensible attitude and some flexibility where necessary.

The third of the major considerations is financial. When selecting medical schools, do not pick schools that you realistically will not want to pay for. Moreover, carrying less debt can, and will, affect future decisions you make regarding your career. Regardless of one's particular goals, strengths and financial status, everyone should apply to at least one or two of his or her state schools if only to cover the possibility of having family finances become a more important consideration for unforeseen reasons. Many state schools are *excellent medical schools* and are often tragically underrated by undergraduates. Another advantage of state schools is that they often have a rolling admissions policy and will start making offers in November and December. Having an offer in your pocket is a great advantage because you can turn down (often expensive) interviews at other schools that may be less interesting to you.

The best source of data about finances at a given medical school is the school's financial aid office. It is entirely appropriate for you to inquire about the general aid structure, financial aid options, and average student indebtedness. These questions will not be held against you.

At this point, you will be ready to review the AAMC MSAR (Medical School Admissions Requirements) handbook, to visit OCS, and to sit down with your tutor and come up with a list of schools in your geographic and financial regions of interest that fill out an appropriate distribution of selectivity. OCS provides statistics on how past Harvard classes have fared in getting into different medical schools and has a file of feedback from Harvard graduates about their medical schools. Personal reports can help you finalize your list by contributing the fourth major screening factor, which is to identify any school at which students are either overwhelmingly happy or *grossly* unhappy.

Beyond the above, there are many other considerations that enter into the decision-making process. These include the neighborhood of the medical school, whether it is urban or rural, the style of the program, especially as to whether graded pass or fail, the class size and many other detailed considerations. Though important, these factors should primarily be used to differentiate schools once you've been invited for an interview and can investigate things first hand.

The American Medical College Application Service Application

Over 90% of the 124 medical schools in the U.S. can be applied to using a single American Medical College Application Service (AMCAS) Form. Others must be approached individually by writing a letter to request an application. The Association of American Medical Colleges (AAMC) MSAR reference text identifies AMCAS and non-AMCAS schools for you. The AMCAS application becomes available in May or earlier, and can be finalized online after June 1 (http://www.aamc.org/students/amcas/start.htm). The ideal time to write non-AMCAS schools to request an application is mid May, although there are very few of these now. Remember that the House Office needs a copy of your AMCAS application before your House Letter can be written!

After the AMCAS application has been sent, you will receive correspondence from your AMCAS schools. Most will have further forms to complete, several of which will include *more* essays or statements to write. *Please* realize that the applications will require a *lot* of work, so one should begin as early as possible. ***Review the timetable*** *in Part III of this handbook.*

Some Tips:

- Fill out the application exactly as specified in the AMCAS Instruction booklet (instructions also available online). We have **no additional** instructions or information to offer - aside from what follows. Be neat. Check spelling. Answer every question. Errors lead to delays and hassles later.

- Fee waivers may be requested if you receive significant financial aid here. See the guidelines provided in the AMCAS website. Such a request delays processing of the application, so you should send it in promptly. (Note that some students who requested waivers in previous years felt that it was not worth the time and trouble since requests have often been denied.)

- Since AMCAS will verify your academic record by study of your transcript, you can facilitate this process by obtaining your transcripts and listing your courses as they appear there. Be sure to make a note on your calendar to send a transcript to AMCAS as soon as Spring Term grades are available.

- If you have done any coursework at another college or university (regardless of when you took the courses--yes, even if you were only in high school), you MUST arrange for transcripts from that school. Do not write down a course for which you cannot obtain a transcript.

- It is helpful to abbreviate the department title and give a one or two-word description of the course content (e.g. Chem - Organic; Biol. - Cell).

- All courses identified as in Area A ("natural sciences courses") on page 13 of "Academic Rules" may be counted as "BCPM" (biology, chemistry, physics, mathematics) courses. Make the best judgment you can on the basis of course content whether to specify a course as B, C, P, or M. Consult OCS if you have any questions.

- Semester-hour equivalents: 4 hours for each half-course, 8 hours for each full-course. Laboratory courses are not different.

- Honors courses: you may designate as honors courses all those courses which your field of concentration will consider when determining whether you will be recommended for the degree with honors. The source for this information is your field of concentration.

- Advanced Standing and Advanced Placement students need to ask the Education Testing Service to send their AP scores directly to medical schools. Please consult OCS for details.

- AMCAS personal statement and essay questions (see House Personal Statement above)

Writing such essays is difficult, but it is well worth the effort. The essay is the only part of the application where you get the medical schools to see you, rather than a bunch of numbers. Be specific and personal, rather than philosophical. If there are events in your life that are particularly important to you, or which affected your decision to go into medicine, describe them. Try to be detailed about yourself and convey a clear idea of your interests and personality. Try to determine what is most important about yourself to bring to the attention of the medical schools (often this is a history of one's interest in medicine). Be as clear, concise, and vivid as possible! Remember that your essay may be skimmed rather than read, so the points you make must be clear. **Be personal, *make a statement!***

Finally, you are encouraged to send several drafts to your tutor and other advisers for critique before sending in the final version. Helping to edit your personal statement is a key part of your tutor's role in your medical school application, so you should definitely make use of their advice and be respectful of their time constraints when sending drafts and asking for comments/edits.

Other Applications and Interviews

A few of your chosen medical schools may not be part of the AMCAS system (see the AAMC - MSAR reference text). These schools will have completely separate application forms, complete with separate fees, deadlines and *more statements/essays*, that will have to be individually requested. This is why it is essential to begin the whole process as early as possible.

Further, after your AMCAS application has been verified and sent to schools, you will begin to get school-specific **secondary applications**, which will often require more essays and a further fee. The sooner you send in these secondary applications, the sooner your application will be considered for an interview. Again, early turnaround times are a key variable within your control and can help improve your chances of getting an interview and being admitted to schools with rolling admissions.

Your next challenge will be to keep track of the progress of your myriad applications. It is highly recommended that you make a tabular checklist for yourself. For each school you should know the tuition, cost of living, the dates on which you sent the application, the MCAT scores, the fees, the

secondary forms, etc.; the date the house letter went out, any transcripts were sent, interviews granted, etc.

It is wise to keep copies of all your correspondence with the medical schools. Hold on to all cancelled checks, receipts for registered mail, etc. Keep in close touch with the schools to which you have applied in order to make sure that your applications are complete. The schools do not, generally speaking, keep you informed, and they do not act on your application until it is complete. In general, do not be afraid to talk to your schools a couple of times on the telephone to check the status of your application. That said, avoid serial calling to check application status unless you have definite reason to believe something is amiss. Schools have hundreds, even thousands, of applicants and processing your application generally takes time after it is received.

Interviews

The premedical interview is often the most misunderstood component of the application process. Students sometimes visualize hostile administrators itching to get their hands on an unwitting candidate in order to expose their lack of knowledge. Thankfully, this is generally not the case. It is true that the scheduling and traveling involved in the process can be exhausting, (not to mention exasperating and expensive!) but remember that the interview is your best opportunity to provide the school with access to who you *really are*, and to find out the same about the school. We often hear from students that after spending a day at a given school, they have a radical alteration in their perspective on the institution in a way that changes their priorities and goals – this is a vital part of the process, so keep this in mind if you are thinking about regional interviews. In addition, the interview day may be the only way that medical schools have of convincing you that you should pick *their* school, so realize that this is a two way evaluation process!

A final preparatory remark concerns the financial burden of the interview… it is steep. On average, students spend **in the region of $4,000** traveling to medical school interviews! This means (1) start to plan for this expense early, (2) get your applications completed early in the season to give yourself the best possible chance of an early acceptance that might save you many late season interviews, and (3) consider ways to defray the cost of the experience – stay with friends, buy tickets in advance, hit up family for frequent flyer miles, and inquire with each school about financial assistance if you cannot afford the trip. If you receive substantial financial aid from Harvard, you may be able to obtain some additional money in your financial aid package to help pay these costs. Talk to your financial aid officer about this as soon as you start scheduling interviews.

The foregoing is intended to outline the importance of the interview, but it need not raise undue anxiety. Winthrop House also holds an interview workshop each fall for applying students who are in campus where we both explain the interview process in detail and conduct mock interviews. Some general tips to consider are mentioned below.

The key to avoiding anxiety is to approach the interview with an unwaveringly *positive mental attitude*, regardless of your record. **Enthusiasm and a warm, positive attitude go a long way to making your interview more pleasurable—for you and your interviewer!** Assume that each interviewer is interested in exploring your strengths (this is the goal of all good interviewers), and that they are trying to do so with varying levels of skill. More often than not, interviewers themselves are somewhat uncomfortable meeting you and genuinely wish to draw you out on topics with which you are comfortable. A positive, enthusiastic, yet polite and attentive interviewee helps *them* overcome tense opening moments.

Most importantly, know yourself and know what you have written on your application essays. **A good rule of thumb is that you should be able to share a 1 minute vignette about anything mentioned on your AMCAS or answers to secondary questions**. (The corollary is that you must write about topics that you are willing and competent to discuss!). Be honest, yet tactful and be willing and prepared to discuss any weak points in your application in a respectful but forthright and non-apologetic manner. Also, do not be afraid to pause and say "let me consider that question

for a moment"; then go ahead and *think* about the question. Clear thinking during an interview is very impressive, so stay loose! Remember that your interviewer may only have skimmed your application before meeting you, so be prepared to repeat and expound on parts of your application. Finally, go into each interview with a mental list of good questions to ask when given an opening in the conversation or to break a silence. Interviewers will almost always ask you if you have any questions at the end, and it is good practice to always have a few questions in mind a few questions about their medical school.

Being a good interviewee takes practice! A good, relaxed technique will serve you well many times in your career. Students are encouraged to take advantage of special interview preparation sessions at OCS and should have a prep discussion or even a mock interview with their tutors before embarking on the interview circuit.

Part III: Application Timetable

What follows is a step-by-step instruction list for applicants and sophomores – keeping track of this guide is necessary for a strong, successful application!

Attention to detail is the key. Be early, organized, and proactive!

Sophomores

(If planning to go straight through to medical school OR 1 ½ years before beginning application)

September

- Look through the Winthrop Pre-medical Handbook and the OCS Premedical Guide.
- Choose courses very carefully to meet pre-med requirements but avoid overload (grades are much more important than they were in freshman year).
- Keep your eyes peeled for Winthrop pre-med announcements.

October/November

- Attend the fall pre-med meeting and sign up for a pre-med tutor. If you haven't been assigned one yet, contact the Resident Tutors.
- Meet with your tutor once and keep him/her updated on your progress and problems.
- Take a look at the MCAT schedule online and plan when you will take the exam.

December

- Consider talking to professors or teaching fellows from the fall semester that might be willing to write reference letters for you. *Also, consider seeking letters of recommendation from individuals who knew you only during freshman year…before they forget you!*
- *Begin to plan summer experiences*. Do you need more clinical exposure or more laboratory work to round out your background? *Note: For potential MD/PhD candidates summer research planning as early as sophomore year is *very important – contact your tutor or Resident Pre-Medical Tutor Eric Bent if you have questions about this.*

February/March

- Meet at least once with your tutor. Discuss summer plans: research? volunteer work? classes? etc. This decision can be very important.
- Actively set up summer experiences early in semester before the mid-term crunch.

April/May

- Take a look at the AMCAS applications when it comes online just to be familiar.
- Obtain reference letters from any suitable professors or TFs.
- Attend Winthrop House Student-to-Student Advising Discussion: current Winthrop students offer guidance on the application process, interviews, and more.

Juniors

(OR those planning to apply this coming summer)

October

- Touch base with your tutor to bring him or her up to date on your plans. If you have <u>any</u> questions regarding course selection, contact your tutor early. Course decisions may be very, very important this year.

November

- Look at the current Winthrop and OCS Premedical Guides to check for changes from last year that might affect you. Contact your Resident Pre-Med Tutor to review the current volume of the AAMC-MSAR (Medical School Admissions Requirements)[1] text to familiarize yourself with its coverage.

December

- Think about whether you will benefit by taking Kaplan or Princeton Review to prepare for a spring MCAT. Some courses begin as early as December
- Register for Spring MCAT. ***Strongly recommended*** that you take MCAT by **end of April** (so you can review your scores before applying). **Consider taking the MCAT at the end of Winter Break.**
- Register for an MCAT course or buy MCAT study books.
- Attend the Winthrop premedical information meeting.
- Be sure to continue to meet with your non-resident tutor.

January

- Touch base again with your tutor.
- Begin summer planning - find the best way to spend (and finance!) your summer.
- Make good course selections for 2nd semester.
- Make final contacts for letters of recommendation.

February

- Complete the Winthrop pre-med information form, available on Winthrop House website (Pre-Medical Advising page).
- Obtain a copy of the <u>Medical School Admission Requirements</u> handbook from the AAMC[2]1 or take a look at the copy at OCS or from one of Winthrop's Pre-Med Resident Tutors.

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[1] Association of American Medical Colleges (ATTN: Membership and Subscriptions, One Dupont Circle, N.W., Washington, D.C. 2OO36, http://www.aamc.org/students/applying/msar.htm). The price is about $25.00, and the book may be purchased from the Medical Area COOP in Boston or by writing directly to AAMC.

[2]

- By 4 pm on the deadline day, students **must** complete the following forms as specified in Part II of this handbook, and turn them in to the assistant to the Resident Dean in the Winthrop House Resident Dean's Office.
    1. Winthrop Premedical Information Form (WPIF)
    2. Winthrop House Questionnaire (see section earlier for requirements)
    3. Accurate list of Recommenders Writing Letters of Reference (on WPIF)
    4. List of Medical Schools (tentative, on WPIF)
    5. Resumé/CV

March 1

Letters of recommendation should be requested by all recommenders. Recommenders should be told that they must have recommendations delivered in printed and signed copy to the Resident Dean's office.

April 15

- **ALL RECOMMENDATIONS <u>MUST</u> BE RECEIVED BY THE ASSISTANT TO THE RESIDENT DEAN**
- The Resident Dean's Office will need stamped envelopes for non-AMCAS schools (see *http://www.aamc.org/students/applying/admissions.htm* for list)
- AMCAS general application available to students at OCS, AMCAS-E forms available online for downloading.
- Begin working on AMCAS personal statement.

End of April

- Make sure you have taken the MCAT by this date so that you have the scores back before you apply.

May 1

- ***Begin AMCAS application*** (usually available online by first week of May). Submit requests to Registrar's Office (20 Garden Street) to have transcripts sent to AMCAS (check AMCAS website for request form). These can be requested to be sent after grades have been turned in. Ensure that the assistant to the Resident Dean has an up-to-date summer address, email, and telephone number <u>before you leave town</u>!
- Attend Winthrop House Student-to-Student Advising Discussion: current Winthrop students offer guidance on the application process, interviews, and more.

Seniors

(OR those currently in the process of applying)

Early June

- AMCAS will begin accepting applications
- **Obtain and submit AMCAS Application - *it's never too early!!***
- Write to non-AMCAS schools to request applications.
- Decide, on basis of your first MCAT scores, whether you will want to take them again over the summer or in the fall. If so, will you want to take a review course over the summer? Please discuss this with your tutor before you leave.
- Check with the assistant to the Resident Dean periodically to see if letters of reference are in.
- Send polite 'reminder' letters to recommendation writers if letters are not in.
- Leave envelopes for House Letter in Resident Dean's Office (9" x 12" envelopes with adequate postage on each, check with the assistant to the Resident Dean for proper amount). **NOTE: This applies to only non-participating VirtualEval schools.**
- Draw up a flow grid, excel spreadsheet, or neat checklists to chart the process of each of your applications from initial contact through interviews. Keep organized with separate folders for each school, etc.
- Have your tutor or a friend double-check your calculations of your AMCAS GPAs. It is essential to be careful and accurate!

June

- Completed AMCAS application should arrive in Resident Dean's Office (the earlier the better).
- **Any student who plans to apply later or fails to meet this deadline must speak with the Resident Tutors before your file will be processed.**

THIS IS YOUR RESPONSIBILITY!!

Late July

- Work on non-AMCAS and secondary application forms. Save some $$ for interview trips. Aim to complete each secondary within two weeks of receiving it.

August-September 15th

- All secondary application forms should be **finished** and sent off.

September

- Begin calling schools to ensure that applications are complete.
- Chat with your tutors before heading off for interviews to review strengths and weaknesses in your applications and how to deal with them.

- Go to OCS and sign up interview workshop sessions.
- Attend the Mock Interview session at Winthrop House

August-March

- Interview season.

Jan 4th

- If no interviews are offered by this date notify Non-Resident Tutor and Resident Tutors immediately.

March

- Interviews over: if none received, alternative plans will be examined. Talk to Pre-medical Tutor and Resident Tutors.

Mar-Jun

- Acceptances mailed!
- Choosing your school: consider quality, location, financial aid package, etc.
- MD programs are required to have extended acceptances by March ~30th, MD/PhD programs are required to have extended acceptances by ~March 15th. Students must inform medical schools of their decision to attend by ~May15th.
- **Call your pre-medical tutor and the resident tutors to let them know your plans for next year!**