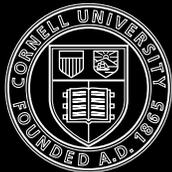


Cornell Career Services

Human Health Professions

Exploration and Planning Guide



Cornell University

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career.cornell.edu

Human Health Professions Exploration and Planning Guide

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Introduction

The undergraduate years are a time for exploration as well as preparation for future careers. There is no place better than Cornell for curricular exploration. The first year of college marks the beginning of a path with many branches available to the curious and open-minded student. Many people enter Cornell feeling certain that they want to use their education to develop strong credentials for a health career. This manual will guide you through the early years of decision making to the point where you are ready to apply for advanced training in a particular health profession.

Students often enter Cornell with a career as a physician in mind. Academic advisors in the Colleges of Human Ecology, Agriculture and Life Sciences, Arts and Sciences and Engineering, as well as the Office of Undergraduate Biology will guide you in course selection to prepare you for any career you now have as your goal. You will have the opportunity to learn here that the healthcare field offers a rich array of varying careers. As a first or second year student, you can apply for the Extern program, which gives you the opportunity to shadow Cornell alumni that live near your hometown over your breaks. Speakers from different healthcare fields come to campus frequently and make presentations to students about their fields of work. Graduate schools that prepare students for health careers also visit Cornell frequently to share information with our students. Through these and other opportunities in and out of the classroom, including undergraduate research and extracurricular activities, you may decide along the way, as many do, that other careers look more attractive and are better suited to your strengths, temperament and life goals than is the career of a physician. At Cornell, anything is possible.

In the first year, the best way to prepare for any human health career is by focusing on two things: forming support networks and managing your academic life. Each is equally important. A strong support system makes it easier to navigate the initially unfamiliar and often unexpectedly rigorous intellectual terrain. Similarly, a strong start in academics brings confidence and facilitates building a strong support system. Simply stated, you need to take your coursework seriously from the first day to the end of each semester, and you need to give yourself the benefit of all the help and guidance available at Cornell.

What does a support system look like? Your family wants to be a first line resource for you. Stay connected with home to let your family know how life is going at Cornell. You will meet students in your own class year and those who are further along in their studies. Make friends with people with similar and different career aspirations and you can support and teach each other about things you learn incidentally. You will also meet faculty members, teaching assistants, tutors and graduate students. Connect meaningfully with these people and develop friendly professional relationships. They have much to teach you both in and out of their classrooms. Residential housing units have advisors, both upper-level undergraduate students and professionals dedicated to help you navigate Cornell. College offices are staffed with professional advisors who can guide you individually and through their websites, publications, listserves, newsletters, and web databases, like CCNet, which notifies you of internship, summer job and other opportunities, based on your interest profile. Cornell Career Services has advisors to help you prepare to be a strong candidate for schools that train students in healthcare fields. After the first semester of your freshman year, you can use an electronic portfolio system, AdviseStream, designed for upper level students planning a health career. AdviseStream helps you to archive your accomplishments and develop a comprehensive understanding of the planning process involved in preparing for a career in healthcare. Reach out and make friends with the people who work and study at Cornell. Those relationships will help you to grow and develop. They will serve you in challenging times and help you to flourish personally and academically.

While we want everyone to succeed academically at Cornell, it is common for a student's early academic performance to improve over time. It is important to assume the perspective that the occasional difficulty, a poor exam grade or a period of confusion over course material is part of the process of learning, and not a reason to alter your life goals. Medical school admissions committees understand that people are not perfect, that they make mistakes. While you need to take your studies seriously, you don't need to call yourself out for every mistake. Be confident, and if you find your confidence flagging, seek counsel. Talk to someone about it as soon as you can. Talk to your family, your professor, your friends, your faculty advisor, or any supportive adult at Cornell until you begin to rightly believe in yourself and your life goals again.

Most health professions are based in a service ethic. You gain the qualities required for a service-based career both in and out of the classroom, through study groups, research labs and

the many extracurricular activities Cornell makes available to you. We recommend that you reflect on these experiences as you engage in them, for you will be asked years from now, on applications and interviews to give evidence of the ways you developed such qualities as life balance, service-mindedness, personal responsibility, altruism, integrity and ethics, an understanding of the health care field, professionalism, problem solving, as well as your communication skills, oral, written and interpersonal.

The undergraduate path to a career in human health requires preparation, planning, documenting, reflecting, self-assessment and the ability to seek guidance and support at important decision points. The serious student makes time for all these things and can confidently expect a successful and enjoyable journey to a health professions career.

Preparing for a Career in Health Care

Effective preparation for a healthcare profession involves a sequence of steps:

1. Planning
2. Doing what you planned
3. Self-Assessing
4. Reflecting

Consider this: Each semester you will take four or five courses. Many of them will have a lab. In addition you will be drawn to an irresistible array of extracurricular offerings. Some of you are EMTs and will serve shifts on Cornell's EMS. Some are recruited athletes who will spend more than twenty hours a week at your sport. Some of you will spend that much time in your research lab. Others will found, lead and participate in intensive service activities. You will have a social life. Many of you will work at student jobs ten or fifteen hours a week. You will need to find time to eat, sleep and exercise. You will be busy people and have a lot to balance and fit into each day. In order to accomplish all this while exploring the universe of opportunities that is Cornell, you will have to learn to plan well and be very comfortable asking for help, when warranted, on how to manage your life well.

During your first semester at Cornell, try to hold back on joining things and instead “tag along” with others to see what they are doing. You don't want to get over-involved while you are trying to build a support network here and mastering your coursework. If you get too involved, your presence may become essential to an organization and it will be awkward for you to discontinue it, even if it's not for you. Be more of a watcher than a doer your first semester.

When you are ready to get involved, you will need to know what competencies will be expected of you when you apply to graduate schools of human health. To some degree, you will then plan your engagements in order to learn and develop these competencies.

Assessment is critical to your development as a person and someone aiming for any particular career. It includes documenting your experiences. One way of documenting is to keep a spreadsheet. The rows correspond to types of activity, such as prerequisite courses taken, interesting electives taken, and experiences in healthcare. The columns indicate date started, date ended, hours spent, and advisor or professor name and contact information. Another way of documenting is to request a reference from the club advisor or course instructor. Letters will be

critical to your success as an applicant years from now, and it is important to gather them when experiences are fresh in the mind of the person writing the letter. Your spreadsheet will come in handy as a way to remind the letter writer of the history of your association with him or her.

Self-assessment means thinking about the meaningfulness of an activity. When an engagement begins to feel dry or unsatisfying, when you feel frustrated or stuck, you can figure out why this is. You can then decide to try to transform the experience or to disengage. The latter can be hard, especially when you have made friends with other people in the organization. This happens all the time in the undergraduate years as you sift through the things that really matter to you. Sometimes it helps to talk over your ambivalence with a counselor, faculty advisor to the organization or another adult you trust. This will help you discern when to move on, or stay committed even when times get challenging.

Reflection is a critical step that articulates meaning and brings closure to your engagements both inside and outside the curriculum. It is important to communicate frequently about what you are doing and what it means to your present well-being and your future life goals. Making meaning in a deliberate way prevents burnout and overachievement fatigue. You can record reflections in AdviseStream. It is set up to include this crucial final step, which follows from the planning, doing and self-assessing. You can also keep a journal. Facebook and Twitter, texting and phone calls home are not a substitute for this kind of deep, personal reflection. It is best to reflect in writing, so you can fully process your experience and then look back at it later when you are feeling differently. In this way you learn how to manage your life in a way that brings greater meaning to all your activities.

Curricular Planning

Cornell undergraduates from nearly every major and certainly every college have gone on to enter healthcare professions. Some majors have course requirements that overlap with those for graduate training programs in healthcare; others do not. For example, it is easier to plan a path to medical school from a Biology major than from one in the Engineering College. It is, however, impossible to plan a career in engineering without training in that field. Engineers need to focus on their college advising office's recommendations to progress in that degree before concerning themselves with the preparation needed for a career in healthcare delivery. Students from other colleges need to explore for a semester or two, find out what interests them, and pick a major. For some students, the healthcare graduate school requirements are part of the electives they take at Cornell. College pre-health advisors can provide invaluable guidance to you as you plan your courses.

At the present time, even within specific health-related professions, curricular requirements and recommendations vary. Graduate professional schools, such as medical and dental schools, differ in the Cornell prerequisites they require and recommend. Some require specific courses (e.g., Introductory Biology). Others require "academic competencies" and leave it to the applicant to prove that he or she has achieved each competency. The American Association of Medical Colleges annually publishes lists of academic competencies, which will change considerably after 2014.

Cornell advisors currently provide generalized lists of prerequisites. On the next page is a summary sheet of the prerequisites for medicine and dentistry. As these changes are instituted, Cornell pre-health advisors will update lists of Cornell courses applicants can take in order to master these competencies. While Cornell permits students to earn credit for high school AP courses, it is important to check with college advisors as to the advisability of using these credits if one intends to go on to a health career. For example, some medical schools do not accept AP Biology as fulfilling a requirement. It is the applicant's responsibility to make sure that the courses taken suffice for a particular school of interest.

It is not necessary to earn an official double major or a minor concentration; simply learning something of personal interest through successively more in-depth courses demonstrates many compelling qualities about a candidate. The goal is to meet the requirements over the four

years of college, not to take them all in the first year or two. These are rigorous and time-consuming courses, and must be spread out in order to optimize your learning and your performance in the courses.

Cornell Course Sequences Required or Recommended for Health Careers

Subject	Cornell Courses
Biology	<p style="text-align: center;"><i>Option 1</i></p> <p>BioG 1500 Investigative Biology Laboratory and BioMG 1350 Introductory Biology: Cell and Developmental Biology and BioG 1440 or 1445* Introductory Biology: Comparative Physiology (*1445 is a personalized instruction format alternative with an abbreviated lab component. 1440 has no lab component.)</p> <p style="text-align: center;"><i>Option 2</i></p> <p>BioG 1107 Introductory Biology I: From Atom to Cell (summer) and BioG 1108 Introductory Biology II: From Cell to Biosphere (summer) and BioG 1500 Investigative Biology Laboratory</p> <p style="text-align: center;"><i>Option 3</i></p> <p>BioG 1105 & 1106 Introductory Biology, Individualized Instruction (No longer offered after Spring 2013.)</p>
Biochemistry	<p style="text-align: center;"><i>Any one of the following:</i></p> <ol style="list-style-type: none"> 1. BioMG 3310 Principles of Biochemistry: Proteins and Metabolism and BioMG 3320 Principles of Biochemistry: Molecular Biology 2. BioMG 3300 Biochemistry, Individualized Instruction 3. BioMG 3350 Principles of Biochemistry: Proteins, Metabolism & Molecular Biology 4. NS 3200 Introduction to Human Biochemistry 5. BioMG 3330 Principles of Biochemistry: Proteins, Metabolism & Molecular Biology (summer)
Biology, recommended but not required	<p><i>Genetics:</i></p> <p>BioMG 2800 Genetics Lecture BioMG 2801 Genetics Lab (first offered Spring 2013) BioMG 2810 Genetics Lecture & Lab (no longer offered after Fall 2012)</p> <p>BioEE 1610 Introductory Biology: Ecology and the Environment BioEE 1780 Evolutionary Biology and Diversity BioMI 2900 General Microbiology NS 3410 Human Anatomy and Physiology (lecture) and NS 3420 (laboratory)</p>
General Chemistry	<p>CHEM 2070 & 2080 General Chemistry (laboratory included) or CHEM 2150 (This is an accelerated one-semester course leading to Organic Chemistry that some medical schools do not accept in lieu of a full year of Gen. Chem. See advisor regarding this option) or CHEM 2090 (for Engineering College students only) & 2080</p>
Organic Chemistry	<p>CHEM 3570 & 3580 (lecture sequence) & 2510 (laboratory) or CHEM 3590 & 3600 (advanced lecture sequence) & 2510 (laboratory)</p>
General Physics	<p>PHYS 1101 & 1102 Individualized Instruction (not calculus-based) or PHYS 2207 & 2208 (calculus-based) or PHYS 1112 & 2208 (calculus-based) or PHYS 1112 & 2213 & 2214 (for Engineering College students)</p> <p>Crossovers between 1101/2208 and 2207/1102 are acceptable; consult Physics website or Director of Undergraduate Studies (DUS).</p>
Math	<p>One semester each of calculus and statistics.</p>
English	<p>The First-Year Writing Seminar sequence usually satisfies this. For the rare exceptions, see the Medical School Admissions Requirements Guide (MSAR).</p>
Social Science	<p>One semester of a social science course, preferably Psychology or Sociology. Consult with a premedical advisor to find a relevant course.</p>

Extracurricular Preparation

Two activities are essential to knowing if healthcare is the field for you. These are service and exposure to health care delivery.

Professional schools want to know if the applicant understands the profession. While one can understand most things from reading and taking courses, such methods are considered insufficient for understanding a health profession. It is essential that applicants have experiences in different clinical settings to document their understanding, motivation and commitment to the profession.

Since most healthcare professionals are service providers, the schools that train these professionals want to gain a strong sense of how applicants relate to personal service. As with clinical exposure/experience, service is essential. Premedical and pre dental students cannot actually provide much direct medical service in a dental or medical setting. However, they can provide extensive service in non-clinical arenas where licensing is unnecessary. It is important to gain service experience in areas where you can have a real and even lasting impact on the lives of other living things.

In addition to service and exposure to healthcare, get involved in things that interest you. Your engagements reveal a rich image of you as a person. When you become ready to apply to health career programs, you will be encouraged to report how you spend their life outside of the classroom, beyond the clinical and service arenas.

Such experiences include research, arts performance and appreciation, athletics, hobbies, and active membership in identity communities, which are based on shared values and initiatives. Identity communities include those based on faith, sexual orientation, national ties, and ethnicity, as well as fraternal social groups. Social media membership alone still does not count!

For both clinical and service experiences, applicants need to plan, enact, assess and reflect on why they chose certain experiences, what motivated their involvement, any obstacles they encountered and lessons learned, as well as any leadership responsibility they took or transformative organizational change they initiated.

Documenting Experiences: Letters of Recommendation

All professionals have depended on references to advance their careers. For admission to health career fields, the personal letter, typed on letterhead and signed by the writer, then transmitted electronically or by postal mail, is the exclusive, established form for endorsing an applicant. A telephone conversation or email correspondence will not substitute, although each of these is frequently the acceptable or even preferred medium for other fields and work opportunities. Admissions committees place their trust in these letters and give them considerable weight throughout their deliberations.

The applicant's ability to secure a useful letter signifies his or her capacity to initiate, build and sustain meaningful professional relationships, qualities that are essential to the effective practice of medicine. When an established professional speaks to your intellectual and human potential, it documents your impact. Letters provide information and insight on personal qualities, such as professionalism, and the academic record.

Reference letters provide an objective, authoritative, and supportive external viewpoint on an applicant. They are called recommendations because they are expected to appreciate the candidate's strengths. A truly candid letter may comment on low points, unfortunate experiences, adversity and obstacles, even negative qualities observed in the applicant. The supportive letter writer will point out these imperfections in the context of the positive qualities the applicant exhibits. When a letter writer is candid, the letter gains credibility. It does not hurt the applicant; it may even help. No one is perfect and the consummate letter writer acknowledges this while substantively supporting the applicant with anecdotes to back up general comments.

Letter writers often refer to the fit between the applicant's strengths and healthcare professions. Healthcare delivery requires professionals of good character who can work effectively under conditions of self-regulation, impeccable character standards, personal responsibility, and absolutely confidential interpersonal communication.

The optimal reference letter writers, or referees, have certain important attributes. They know you from different areas of your life in addition to school: Clinical experiences, research labs, employment and other volunteer work. They are knowledgeable and experienced in assessing pre-health professions students. They know more about you than your academic

performance in one course. They are able to compare you with other Cornellians. Finally, they are able to write well.

As you collect letters, you will begin to build different sets of letters that you can use for different purposes. One important question for later is: Which set of referees can help you build a balanced profile of your credentials and relevant experiences? One person will not be able to authoritatively discuss all your qualities. Taken together, your letters can cover many aspects. Good sources of letters generally include a faculty member, either science or non-science discipline, your faculty advisor for more than a semester, a professor for whom you've worked, an employer, club advisor, supervisor of voluntary activity or research experience, camp director, chaplain, coach, or other mentor. The most useful and valuable letters comment substantively on the intellectual, interpersonal and intrapersonal competencies set forth by the American Association of Medical Colleges (AAMC). Most health care professional schools use these guidelines explicitly or implicitly. To find a complete list of these competencies, Google: "AAMC competencies interpersonal intrapersonal."

In general, it is best to ask at least one instructor from the college years to write one of your letters. This referee's letter will demonstrate that you have your university's academic support. A letter from a teaching or laboratory assistant is sufficient, but not optimal. If a graduate student writes the letter, s/he can ask the faculty member in charge of the course or lab to ratify and cosign it. Alternatively, if a professor does not know you well, you may ask a TA to submit notes to the professor on which s/he can base the letter.

When you ask someone to write you a letter, you will make a decision to waive or retain your right to access the letter. This right is guaranteed by the Family Educational Rights and Privacy Act, commonly known as FERPA. FERPA guarantees important rights to students, including the right to inspect one's education records, the right to challenge incorrect information in those records, and the right to disclose or not disclose one's education records.

Because FERPA guarantees these rights, neither Cornell University nor other institutions or organizations can require one to waive these rights. University policy on access and release of student records is stated at the CU policy website. Make sure to review Cornell's interpretation of these rights. To find it, Google: Cornell FERPA policy.

When you establish a file for letters of recommendation, consider your FERPA right to access each letter. If you decide to waive access, which is the norm, it is a courtesy to inform the

letter writer that you have chosen to do so. If you do not raise the subject with the writer, the FERPA right is retained and you may review the letter. FERPA does not give students the right to change a letter or to have a copy in their possession. While FERPA does not require it, it is a professional courtesy that students discuss a decision to retain the right to view a letter with the letter writer when you are asking for the letter.

Since waiving FERPA is the norm, students often ask why one would retain rights to view the letter. It is useful to know what each writer has included in letters. By reviewing the letter, you enhance your preparation for interviews with people who have read the letter. Reviewing your letter gives you feedback on how you are seen by others. Finally, reviewing the letter allows you to detect any factual or typographical errors in the letter before it goes out. Most university letter writers are busy. As you know, even a writer with the best intentions can make mistakes.

When a student waives access to a letter, s/he is trusting that the writer will compose a knowing, caring, supportive and accurate letter. Most of the time, this is the case. Letter writers may expect that everyone routinely waives FERPA as that has been common practice at universities since FERPA came into effect. If a potential recommender agrees to write a letter that will be retained and is uncomfortable with the student's choice, s/he can choose to write a brief and uninformative letter for a student who does not waive FERPA. This is a rare scenario. If that were to happen, the student would review the letter and can invoke his/her FERPA right not to disclose it. It is more likely that in the conversation between letter writer and student, when the letter writer resists FERPA retention, the student accedes his or her FERPA rights to avoid conflict and because s/he trusts the referee.

FERPA does not require or recommend that receiving institutions be informed of a student's choice to waive or to retain. Some institutions do inform receiving schools of the student's choice. It is a good idea to ask about this when making the decision to waive or to retain.

You can have these letters archived at a credentials storage service. Many Cornell students open accounts for this purpose at Interfolio, a web-based company.

In conclusion, people who know you well and have shown that they care about you are the best candidates for recommenders. If in doubt about whom to ask or how to ask for a letter, consult a health careers or faculty advisor. You can also get good information from on-campus

briefings held during the academic year, which are recorded and posted at the Career Services web site. Letters matter greatly and it is important to think about making relationships with the professionals in your life from the beginning, and throughout your college years.

Guidance and Support

The Colleges of Agriculture and Life Sciences (CAL S), Arts and Sciences (A&S), Engineering (ENG) and Human Ecology (HE) have advisors with expertise in helping you plan the optimal course schedule. Most of the questions freshman, sophomore, and junior transfer students pose relate to academic requirements. The college advisors are:

CALS	Cate Thompson	Roberts Hall
A&S	Ana Adinolfi	Goldwin Smith Hall
ENG	Beth Howland	Olin Hall
HE	Paula Jacobs	Martha Van Rensselaer Hall

You cannot seek advising at a different college office than your home college. For course advising, the first stop is your home college, unless you are in AAP, ILR, or Hotel.

The Office of Undergraduate Biology (OUB) will advise Cornell students on healthcare professional objectives, regardless of their home colleges. Cornell Career Services (CCS) has a health careers advisor who meets with students from all colleges.

OUB	Bonnie Comella	Stimson Hall
	Wendy Aquadro	
	Jeff McCaffrey	
	Colleen Kearns	
	Peer Advisors	
CCS	Janet Snoyer	Barnes Hall

Pre-health advisors post the answers to common issues and questions on their websites and through publications such as this one. Address your questions to advisors in your home college after you have checked the college website for relevant information. By keeping yourself well-informed, you will be able to have more meaningful and individualized advising appointments. Nearly all commonly asked questions have answers on the website.

Cornell puts a great deal of authoritative information in your hands as a student. The Career Library in 103 Barnes Hall, which is open during regular business hours, offers extensive resources, on site and online. In addition, Cornellians can view notebooks in the Career Library or access online our surveys of past applicants' experiences and outcomes (with net ID and

password). The Keyword Search feature at the Career Services website allows convenient access to its electronic resources.

To learn more about the many health professions students pursue, you can enroll in CCNET at the Cornell Career Services website. This is a web database that will send you notices and reminders about internships, campus speakers and advisor presentations and programs for students interested in health careers. The CCS Extern program matches students with alumni in an array of careers for short, exploratory shadowing opportunities, usually during your semester breaks and close to your home if possible. The 2013-2014 Health Careers Calendar on the inner cover of this booklet is a handy reference.

Perspective on the Future: An Overview of the Application Process

Cornellians apply to graduate schools that train them for health professions either during or after college. Admissions cycles vary for different terminal degrees. For example, the preparation of application materials for the doctoral degree in allopathic/osteopathic medical school (MD or DO) and dentistry (DDS or DMD) begins 15-18 months before matriculation. Other doctoral degree types have shorter cycles that start later. These include optometry (OD), pharmacy (PharmD) and podiatry (DPM).

All application cycles have in common the sequence of steps leading to a successful admissions outcome. Each of the steps summarized below is covered in greater depth in an application guide students receive when they are ready to apply. Planning, documentation, seeking timely guidance, and meeting deadlines are essential to success.

Cornell offers approximately 89 majors and, since 2006, Cornellians who majored in over 80 different majors have gone on to apply just to medical school alone! Professional schools differ in the academic preparation and Cornell course prerequisites they require and recommend. Some require specific courses (e.g., Introductory Biology). Others require “academic competencies” and leave it to the applicant to prove that he or she has achieved each competency. At the present time, even within specific health-related professions, curricular requirements and recommendations vary. It is the applicant’s responsibility to make sure that his or her prerequisites suffice for a particular school of interest.

The assessment of one’s readiness to apply in a particular admissions cycle is a crucial and complex process. Grades and MCAT scores are not everything, but they do play a large part in securing the interview. It is easy to calculate and to provide the average GPA and MCAT for Cornell undergraduates accepted to particular schools of human health, but these numbers can be misleading. Experience shows that even among applicants who fall exactly on the average, a wide range of outcomes will occur, from acceptance at several schools to rejection at all schools. Advisors provide essential professional guidance, which can greatly facilitate the desired outcome: acceptance at a school.

Criteria for a Successful Application

Over the past forty years of observing the ever-changing health professions admissions landscape, Cornell's health professions advising program has identified the two criteria that predict a successful admissions outcome. These criteria are interdependent.

1. The timing of the application: It must be completed as early as possible.
2. The applicant's preparation must fulfill holistic admissions standards.

The holistic standards do not vary much among health career schools, although the allopathic schools report the highest mean GPA and MCAT scores. The other standards essential to a holistically sound preparation include extracurricular activities and personal competencies. A third criterion that applies to some, but not all applicants, and affects readiness, is assessment of a person's character and integrity.

Along with timing, an applicant's level of preparation in these areas determines his or her readiness. Using these criteria, an advisor can help potential applicants form a valid and reliable perspective on individual admissions prospects.

Most schools admit applicants on a rolling admissions basis. The timing factor most directly relates to standardized tests and completion of the application. Incompletes (I grades) on the transcript can be an obstacle to one's readiness to apply. Applicants do not need to complete a school's curricular prerequisites before applying. Completion of prerequisite coursework is not a significant factor in the timing issue.

About half of all applicants – Cornell and nationally – commonly apply before they have graduated from college or finished all their application course prerequisites. Applicants who have shown their adjustment to Cornell's rigor by a steadily improving academic performance optimize their chances of success by finishing college before applying, thus earning the best possible GPA.

Standardized tests are a different matter. The MCAT, DAT or GRE score is used to level the playing field in admissions. Schools commonly weigh scores heavily, along with the GPA, in an algorithm they use to decide whom to invite for an interview. Lack of readiness to take a test like the MCAT is a reason to delay the application to a subsequent cycle. One should not take the test prematurely.

In addition, applicants who do not take standardized tests until the summer when they apply face a timing disadvantage, regardless of the score. When applicants must guess about

their scores, they may not have crucial information on which to base the list of schools where they apply.

All things considered, an applicant who has completed the undergraduate degree, including all academic prerequisites/competencies, has received a standardized test score, and completes the primary application as early as is allowed, has a stronger chance of acceptance than do others.

Standardized Tests

Different professions require different standardized tests. The purpose of the standardized test from the admissions viewpoint is to establish one requirement that all applicants must meet, by which applicants can be compared fairly. Usually these tests are administered several times a year on a computer at a testing center. Many alternatives for test preparation are available, commercial and non-commercial. Cornell advisors recommend that the optimal timing of test administration take into account the following critical variables.

- Complete the courses that prepare you for the material on the test before taking the test.
- Engage in self-directed learning on topics you have not yet studied. For focused test preparation, consider topical review at a free tutorial website such as Khan Academy or Coursera, and one of the four commercial test preparation/review courses available: The Berkeley Review, Examcrackers, Kaplan, and Princeton Review.
- Do not plan to take the test during known periods of high academic demand or when you have many competing priorities. For example, a May administration date may seem like a good choice from the perspective of one of the above variables, but sometimes scores suffer. Cornell undergraduates may be mentally exhausted during and soon after their spring semester exams and projects are completed. In addition, the strategic preparation schedule planned for the spring may give way to more immediate priorities, like papers and projects, in late April and May.
- Take the test with sufficient lead time on the application cycle that you know your score before you choose the schools where you will apply.

Letters of Recommendation

The strength of an applicant's candidacy is measured by the applicant's writing and interpersonal communication, as well as those of the people and institutions who provide support through letters and character references.

All professionals have depended on references from other people to gain entrance to the schools that will train them to enter their chosen fields. Since medicine requires professionals of good character, who can work effectively under conditions of self-regulation, personal responsibility, and interpersonal communication, admissions offices want to hear from established professionals who will speak to the applicant's potential, both intellectual and interpersonal. It is essential that pre-professional applicants take the time to know and to be known by those who teach them and supervise their activities. Only then can those mentoring professionals write effective references. For Cornell applicants, two kinds of letters matter to gaining admission to schools of human medicine.

The purpose of a letter of recommendation is for a referee who is in a professional relationship to comment supportively and specifically on an applicant's suitability for a health careers profession in a reference letter. In order to have a successful application, a candidate must have cultivated professional relationships with instructors, mentors, and supervisors. The candidate must be able to identify readily at least two or three people who respect his/her abilities through direct knowledge. The referee must appreciate the candidate's distinctive qualities and genuinely like him or her. These relationships cannot be created in the same conversation where one requests a letter of recommendation. If the candidate does not have at least two of these relationships at the time of application, s/he is probably not ready to apply.

The Institutional Letter of Evaluation

The Letter of Evaluation is recommended – not required – by schools that grant the following degrees: MD, DO, DDS, OD, and DPM. It is an evaluation of a person's undergraduate years. It supports the applicant by explaining his or her activities and experiences in and out of the classroom. It explains challenges, obstacles, opportunities and triumphs. Cornell's Health Careers Evaluation Committee (HCEC) prepares it for anyone who completes the HCEC registration process, and qualifies for one based on its rules and procedures, which are

explained at its web site. Neither Cornell nor the schools listed above require candidates to have an HCEC Letter in order to apply. Applicants who procure one generally have more successful admissions outcomes. Preparing the materials for the HCEC registration will help the candidate to ascertain readiness. The ability to respond meaningfully to many of the questions, prompts, and information requirements in the registration process is essential to a successful application.

Holistic Review

The holistic review system in healthcare admissions necessitates preparation in many different areas. Three personal factors are essential to readiness to apply. These are evidence-based. The applicant must be able to document that s/he has worked and developed himself/herself in these areas. They are service to other people, exposure/experience in the world of clinical healthcare, and the ability to communicate well interpersonally. The latter includes professionalism, sensitivity to interpersonal cues, as well as the ability to listen well and to share one's knowledge with others effectively.

Evidence-based Selection

Documentation and personal reflection are required elements of primary and secondary applications. Applicants need to provide accurate evidence that they have made time to serve others and to reflect on the personal meaning of those service experiences. Clinical experience enables applicants to understand how and why they are suited to a career in medicine. Applicants are asked in written form and in the interview to demonstrate that they understand not only what any medical career entails, but also how healthcare reforms will affect their own careers. Finally, they must be able to talk comfortably in response to a wide range of questions about their own personal reasons for pursuing this career.

Professionalism, Ethics and Integrity

Demonstrating personal integrity and ethical conduct is essential in a health care professional, and by extension, applicants to schools of medicine. The medical profession has studied the pre-determinants of medical misconduct. Patterns of lateness, missing deadlines, frequent requests for extensions, and lack of preparation for assignments, tests, and performance-

based clinical exercises have all been linked to professional misconduct in practicing physicians. Thus, these seemingly unimportant behaviors are of great interest to admissions professionals.

Most human beings have behaved poorly at some point in their lives, personally or professionally, and are forgiven for it. When poor behavior gains the attention of university and civil authorities, admissions committees want to know what happened. They want to understand the institutional action in context. The applicant is expected always to report these things when asked about them on an application. It is tempting from the applicant's perspective not to report an incidence of institutional action. Conclusions drawn from the facts of an institutional action are the province of the admissions office, not the applicant. Admission of an institutional action is unlikely to keep an applicant out of the medical profession, but misrepresenting it, minimizing it or even directly lying about it rather than finding a way to reflect meaningfully and contextually upon the situation and integrate the experience into one's life narrative, will almost assuredly have a seriously negative effect on one's admissions outlook.

Cornell applicants have sometimes had oral or written warnings from the Judicial Administrator regarding underage drinking or breaking residential house rules. Cornellians using forged IDs have been caught by local police. Advisors have learned that people with these transgressions need not fear that their hopes of becoming physicians are ended. However, intentionally misrepresenting the transgression does represent a lack of integrity and ethical weakness to the admissions office.

When a potential concern about the applicant comes indirectly to the attention of an admissions office, and the candidate has not previously disclosed and explained the situation in context, it creates incongruence in the admissions review process. For example, an applicant may resist admitting to a seemingly trivial offense for which he or she was cited, such as being in the same room as someone engaged in underage drinking. Since the citation may be a matter of record only until the student graduates, the student may be tempted not to admit to the infraction. Some admissions offices routinely request Dean's Letters, which attest to any institutional action on the part of the University with regard to the student. Students voluntarily release this information to complete their application at these schools. When such information reaches the admissions office in this way, and the candidate has not mentioned it, this can cast unresolvable doubt on the integrity of the applicant and doom the application. The Health Professions Advising Program recommends that applicants explain in their application materials even minor

or long-resolved situations in which they were involved and reflect on what they learned from each incident.

Applicants must balance their intention to present themselves well with the imperative that they maintain unimpeachable ethical conduct. Seemingly innocent statements may later, in the admissions context, be deemed evidence of ethical weakness. A common example is showing a pattern of lateness in submission of materials, accompanied by excuses, or claiming an honor or publication before it has actually become a matter of record. Likewise, an applicant may predict that a personal experience will happen in the future, such as a community volunteer activity, due to one's confidence that it will occur before the admissions office reviews the application. If an experience has not happened, it may not actually ever happen. The ethical and strategic approach is to omit mention of the impending news and send a supplementary letter when it has happened, as an update to the application.

Most allopathic medical schools make their admissions offers conditional upon the results of nationwide criminal background checks. Some schools require applicants to submit a letter issued by the College Dean or Registrar. The intent of this letter is to corroborate the applicant's statement regarding the presence or absence of any Cornell academic integrity violations or other university disciplinary action, such as that carried out by the Judicial Administrator's office.

A Health Careers advisor can provide guidance on how to present matters that may cause concern in an admissions review. One of the first considerations will be how much time has passed since an infraction occurred. If one occurred in the year before applying, it is best to wait for a subsequent cycle to establish distance from the offense. If more than one offense has occurred – of the same or different kinds – it is imperative not only to establish distance, but also to find ways to establish definitively that the applicant has resolutely taken responsibility for the offending actions and deliberately reformed his or her behavior. If any of the above situations apply, it is essential that the applicant seek the confidential counsel of an advisor about how and when to proceed.

Primary Application Procedures

Most applications are online. The allopathic, osteopathic, and dental usually open in late spring or early summer for matriculation about fifteen months later.

Nearly all medical professions at the doctoral level use centralized online primary or common applications. These applications are administered by organizations hired by the individual schools to make it more efficient for applicants and admissions offices alike. These applications require a lot of information. They include a personal statement that bears heavily on the decision to admit later in the process. It is absolutely critical to success that applicants are ready to complete these primary applications when they open for the current cycle. In addition to the personal statement and a fee, a complete application includes submitting the main document documenting one's experiences and academic preparation. To complete an application also means determining in large part the list of where to apply as well as directly submitting external transcripts from all schools where the applicant has received college credit. Most schools use a rolling admissions process and admission becomes more competitive as time goes on in the admissions cycle.

The Secondary Application

After receiving the primary application, schools decide whether to offer each applicant a supplemental application tailored to the individual school. These are known as secondary applications or "secondaries" and can be lengthy. Applicants must prepare to spend their summer free time largely occupied with the short answers and essays that characterize most secondary applications. Many schools track the date that they send out invitations to complete the secondaries. The admissions office uses the applicant's prompt reply as a positive indication of interest in the school. It is essential to prioritize completing these secondaries upon receipt, balancing quality with timeliness.

Interviews

Most schools of human medicine require a personal interview at the school. Because schools do not have the resources to interview all their applicants, an invitation for interview is the first cut in the application process. Invitations to interview are extended in a phased process, one group at a time, and each school has a different timetable for issuing these invitations. Interviews take place in the fall and continue into the spring.

Practice and preparation are important to a successful interview. A lot of information is available online about each school's interview day to aid in preparation.

After submitting the secondary application, it may take considerable time to hear from schools. Waiting for an interview can last for months. In the interim, Cornell advisors recommend constructing a proactive strategy for remaining a viable candidate in the admissions pool for each school. Successful applicants can prepare systematic ways for updating and connecting with schools in an effective manner during these silent and uncertain periods. This carefully crafted communication strategy will increase the probability of receiving an interview, a place on the wait list, and/or an admissions offer.

Deciding Where to Attend

The decision of where to attend often uses quite different factors than the one applicants use to construct their original list of where to apply. Finances and geography play largely into the decision. When an applicant receives an offer, he or she will need to hold that seat with a deposit. If more than one offer arrives, he or she will need to pay additional deposits, which may or may not be refundable, if s/he wants to wait for other offers. Schools expect applicants who hold multiple spaces to deposit at more than one, to hold multiple acceptances, and do not consider such actions as poor etiquette. This practice does not jeopardize the applicant's offer in any way. Rules governing this practice exist for the mutual protection of applicants and schools.

Dealing with Unexpected Outcomes

When an applicant is unsuccessful in a particular admissions cycle, a global evaluation of his or her credentials is the next step. The applicant must subsequently seek opportunities, usually paid, in health care, to strengthen any areas of relative weakness. Academic programs exist to strengthen the undergraduate academic record as well.

Guidance for the Application Year

Advisors can provide individualized guidance on strengths and weaknesses in an applicant's credentials and help the applicant to form a realistic plan for successful admission. Health Careers advisors can provide individualized information on Cornell-specific admissions

data. This information may help applicants with unique backgrounds and qualifications to assess their likelihood of success. They include:

- Contact information for potential mentors studying at different health career schools
- Historical Cornell admissions outcomes data
- Summer and bridge year opportunities generally held by Cornellians
- Special programs dedicated to research, service or enhancing the academic record

The Cornell Career Services staff collects and organizes information on interesting and valuable opportunities for educational, personal, and professional development during the summer, between semesters, and/or the period between graduation and matriculation at a medical school. These opportunities range from working in clinical research labs to teaching in urban schools. Most will provide fulfilling and meaningful employment experience while simultaneously boosting an applicant's credentials.

Every applicant presents a combination of strengths and weaknesses. No one is perfect. The candidate must possess sufficient detachment and perspective to highlight carefully the strengths and explain the relatively weak areas of the application. Often this process is best carried out with the guidance of an advisor or mentor who understands health career admissions. Sometimes it is helpful to get counseling from a Cornell career counselor, using a questionnaire that elucidates one's strengths. Another useful activity is keeping a handwritten journal or electronic portfolio, particularly AdviseStream, to gather writing and evidence of experiences for use in the application and interviews. Relying solely on one's memory of experiences is insufficient for the preparation of a comprehensive and compelling application.

The readiness factors discussed here apply most directly to allopathic medicine, which sets the standards for most health careers admissions processes and is the most common aspiration for Cornell students. To see how these factors apply more directly to special applicant categories and to other medical school types, first do some web research and then meet with an advisor.

When to Apply

It is possible, but uncommon, to have all the requisite factors in place by the midpoint of one's junior year. Realistically, most people increase their chances by applying during their senior year or within the five years following graduation from Cornell. In our experience, few people, when looking forward, view the gap year with great zeal for two reasons:

1. Uncertainty over the possibility of finding an ideal one- or two-year opportunity
2. Parental pressure to stay in school.

Nevertheless, it is common among medical school candidates to take a break after college. The average age of medical school matriculants reflects this. Furthermore, once the decision has been made to pursue a year or two off between educational institutions, and the opportunity secured, no one ever regrets it.

Obstacles to Readiness: A Summary

To summarize, the chief obstacles to readiness are those known to trigger negative admissions reviews, either at the first selection action, the GPA/MCAT interview invitation gateway, or during the subsequent holistic review process. Applicants will increase their chances of acceptance and make better decisions regarding when to apply by seeking guidance from an advisor. Few of the factors will in isolation keep a person from being admitted, but when one is present it is helpful to gain the perspective of a professional on one's overall readiness and viability as an applicant.

- Cornell GPA overall below 3.3.
- MCAT below 30 (check with an advisor for DAT and GRE targets).
- No standardized test score received by time of application.
- Little if any clinical experience.
- Little if any service experience.
- Institutional Action (JA or Academic Integrity ruling) or Civil (police or court involvement) occurring in the academic year preceding the current application cycle.
- Incomplete grades on the transcript or a single-semester GPA below 3.0 within two semesters of the current cycle.

The Well-Prepared Applicant

Any Cornell applicant whose credentials meet the following specifications will have a strong chance of a successful admissions outcome.

- Has earned a science GPA above 3.4 (check with advisor for certain 3.0 – 3.3 exceptions).
- Received an MCAT above 32 with no individual score below 9 (check with advisor for certain 24 – 31 exceptions and other test score targets).
- Completes the primary application within a few weeks of its earliest submission date and the secondary applications within two weeks of receiving them.
- Demonstrates substantive exposure/experience to clinical medicine as well as service throughout the college years.
- Applies to at least 10 schools with matriculated applicant means equivalent to one's own GPA and test scores, and applies to about 15-20 total schools.
- Produces compelling personal written reflections on his or her unique journey to the point of application.
- Presents references in a timely way submitted by a range of people who know him or her well enough to speak confidently and intelligently about the applicant's non-academic experiences.
- Stays in good standing with the HCEC by adhering to its timeline and procures an HCEC Letter.

It is unwise to apply to health career schools before one's credentials are fully formed. When one has a low chance of acceptance and undertakes the application as an experiment, hoping for success, or merely practicing for a subsequent year, the strategy frequently backfires. Schools that have issued rejections to that applicant may not comprehensively review the applicant if he or she reapplies the following year. Medical schools sometimes consider it a sign of poor judgment to apply prematurely, as well as a misuse of their resources in reviewing the applications. These attitudes may lead the admissions office personnel to set implicitly even higher expectations for re-applicants than they do for first-time applicants.

Year-by-Year Guidelines

All health care pre-professionals are encouraged to use the materials in the Career Library, 103 Barnes Hall, and on the web to determine specific requirements for course work, standardized tests, and application procedures. The following checklist is a good general guide for most health careers with specific references to medicine and dentistry.

Throughout Your Undergraduate Career

- Plan your course schedule in consultation with an academic advisor.
- Create a CCNet profile at career.cornell.edu. Within “Career Preferences,” select “Health Careers Notices” in the “Career Services Desired” menu in order to receive health careers program information. Consult “Upcoming Events” for program announcements.
- Attend programs featuring professional school admissions speakers, practitioners, and others.
- To learn about specific schools & programs, attend special programs offered annually, particularly "Grad and Professional School Day," every fall.
- Check out student health career organizations, volunteer and research opportunities, summer jobs, and internships to test and develop your career interests.
- Start searching for summer opportunities during the fall semester for the following summer.
- Develop and frequently update an alternative career option to pursue if you don't go to a health professional school or want a gap year or two.

Freshman Year or First Transfer Year

- Attend Freshman Orientation for freshmen and transfer pre-medical and pre-veterinary students held during Orientation Week or listen to the audio if you are unable to attend.
- Meet with your faculty advisor and/or student academic advisors, and the pre-health careers advisor in your college to plan a four-year program to include college requirements, major requirements, and health career school requirements.
- Get to know your teachers and advisors. You'll learn more, enjoy Cornell more, and lay the groundwork for future letters of recommendation needed when you apply.

- Remember a year or a semester away from campus, such as study abroad, needs to be planned in advance; consult with your college advising office.

Sophomore Year

- Open an AdviseStream account to explore, prepare, plan and learn about health careers.
- Attend Sophomore Orientation for pre-medical and pre-dental students held early in the spring semester or listen to the audio if you are unable to attend.
- Plan your prerequisite course sequence in order to complete the necessary requirements before taking standardized admission tests.
- Check out opportunities and requirements to be a teaching assistant in your junior and/or senior year.
- Continue getting to know teachers, advisors, and others who might write your letters of recommendation.
- Use the Career Library on line keyword search to locate resources. Become familiar with informational resources, especially those that list specific requirements at schools, in the Career Library at 103 Barnes Hall.

The Academic Year Before You Apply (varies depending on when you plan to matriculate)

- Attend Orientation for Juniors and Seniors Applying in 2014, held in September. Review your profile, the best year for you to apply, and consider your choices for HCEC letters of recommendation.
- Attend HCEC Orientation in October if you are applying for one of these degrees: MD, OO, DPM, OD, DDS, DMD.
- When you know you are ready to apply, register with the Health Careers Evaluation Committee (HCEC) over winter break if applying to relevant schools of human medicine.
- Attend fall and spring semester advisor briefings. These cover the steps necessary to complete the application process. If you cannot attend, listen to the audios online.
- Access online information about standardized testing and decide when to take your field's exam.

- In the Career Library and on the Health Careers web pages, consult information provided by previous Cornell applicants.

Summer of Your Application Year

- Apply to schools of human or veterinary medicine. Check procedures and deadlines and review requirements, which can vary among schools.
- Have the HCEC letter of evaluation sent to medical/dental schools that have requested it.

Fall After Your Application

- Attend briefings on "Interviewing at Medical/Dental School," "Follow-up Action" and "Waitlisted or Waiting: What to do." If you are not getting interviews and/or acceptances by December, see a health careers advisor.
- Interviews at schools of human medicine usually occur between September and March. Acceptances arrive mostly from late fall until May, but may go into the summer.
- Interviews at osteopathic medical schools (DO) can begin in the late fall and go into the early spring. Acceptances usually arrive spring semester.

Investigating Careers: Further Reading

- *Anatomy of an Illness as Perceived by the Patient*, Norman Cousins
- *Another Day in the Frontal Lobe*, Katrina Firlik
- *Becoming a Doctor: From Student to Specialist, Doctor-Writers Share Their Experiences*, Lee Gutkind, Ed.
- *Betrayal of Trust: The Collapse of Global Public Health*, Laurie Garrett
- *Caring for the Country: Family Doctors in Small Rural Towns*, Howard K. Rabinowitz
- *Cutting for Stone*, Abraham Verghese
- *Darkness Visible: A Memoir of Madness*, William Styron
- *Deadly Dust: Silicosis and the Politics of Occupational Disease in Twentieth Century America*, Gerald Markowitz and David Rosner
- *Final Exam: A Surgeon's Reflections on Mortality*, Pauline W. Chen
- *Get Me Out: A History of Childbirth from the Garden of Eden to the Sperm Bank*, Randi Hutter Epstein
- *How Doctors Think*, Jerome Groopman
- *Life in Medicine: A Literary Anthology*, Robert Coles, ed.
- *Medical Marriages: Sustaining Healthy Relationships for Physicians and Their Families*, Wayne M. Sotile and Mary O. Sotile
- *Mountains Beyond Mountains: Dr. Paul Farmer, a Man Who Would Cure the World*, Tracy Kidder
- *My Own Country: A Doctor's Story of a Town and Its People in the Age of AIDS*, Abraham Verghese
- *Never Say Die*, Susan Jacoby
- *Nursing Against the Odds*, Suzanne Gordon
- *Oath Betrayed: Torture, Medical Complicity, and the War on Terror*, Steven H. Miles
- *Out of My Life and Thought*, Albert Schweitzer
- *Shock: The Healing Power of Electroconvulsive Therapy*, Kitty Dukakis and Larry Tye
- *The Checklist Manifesto: How to Get Things Right*, Atul Gawande
- *The Ghost Map: The Story of London's Most Terrifying Epidemic*, Steven Johnson
- *The Healing of America: A Global Quest for Better, Cheaper and Fairer Health Care*, T.R. Reid
- *The Immortal Life of Henrietta Lacks*, Rebecca Skloot
- *The Man Who Mistook His Wife for a Hat*, Oliver Sacks
- *The Social Transformation of American Medicine*, Paul Starr
- *The Soul of Medicine: Tales from the Bedside*, Sherwin Nuland
- *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctor and the Collision of Two Cultures*, Anne Fadiman
- *Treatment Kind and Fair: Letters to a Young Doctor*, Perri Klass

In addition, the Cornell Career Services Library at 103 Barnes Hall has many books and binders related to the pursuit of health careers, and provides a quiet place to study. Locate web and other resources in the Career Library at career.cornell.edu/library/default.html.