

Preparation for Medical, Dental, Pharmacy, Physical Therapy, and Physician Assistant Careers:



Helping Students Gain *a Competitive Edge*

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Introduction

Each year, a large number of students begin college with aspirations of entering a health profession. High school teachers and guidance counselors as well as college admission counselors and pre-health advisors can assist students by providing current information regarding general entrance requirements to health professions programs. This paper is designed to provide both counselors and teachers with information that will assist them in helping students plan programs of study in college and seek relevant health-related experiences. We offer suggestions on how to seek information about health professions and obtain first-hand exposure to the work responsibilities of practitioners. We will describe the admission processes of medicine, dentistry, pharmacy, physical therapy, and physician assistant programs. To that end, we will review degrees available, required college course work, and application procedures and time frames. We will also discuss the importance of standardized tests, interviews, and letters of evaluation in the application process and in the admission decisions.

Seeking Information

If considering a health career, students should begin investigating health professions programs as early as possible in their high school or collegiate education. To gather preliminary information about health careers and health professions education, students can write to health professions schools for publications or browse health professions web sites. To develop an understanding of the work responsibilities and lifestyle issues of various health care providers, students should speak with health professionals practicing in their field of interest. To test their motivation for a health career and their predisposition to work in a patient care environment, students may choose to participate in clinical observation experiences as volunteers or enroll in either clinical summer enrichment programs or service-based curricular experiences in health care settings.

College counselors should work to facilitate contacts between prospective students and health profession advisors on their campuses. Interactions with pre-health advisors can help undergraduate students learn what they must accomplish both inside and outside of the classroom to become competitive applicants to health professions schools. Students thinking of applying to health professions schools in the future must have a sense of when they need to apply and what they need to do to be eligible and competitive for admission. Advisors and teachers can assist students in seeking information on prerequisite course work to take in college as well as selection criteria and application time lines for health professions programs. There are currently 125 medical schools, 54 dental schools, 84 pharmacy schools, 214 schools of physical therapy, and 120 physician assistant programs across the United States. It is important to recognize that admission requirements and procedures will not only differ across health care fields, but will also differ across institutions within the same health care field.

Seeking Exposure to the Professions

Nearly all health professions programs advocate that future applicants seek experiences in health settings to help them determine whether they are well suited to work in their selected field. Often admission committees want applicants to have significant exposure to the profession through observation or work experience. Medical, dental, pharmacy, physical therapy, and physician assistant admission officers encourage prospective applicants to talk to practitioners about their work, shadow them in the office, hospital, clinic, or dispensary, or volunteer in a health care facility. Such experiences should provide the applicant with a realistic perspective to confirm his or her reasons for entering the profession and to gain insight into the professional and personal challenges faced by current practitioners.

As part of their application process to health professions programs, students may be asked during the admission interview to describe their clinical experiences gained as high school or college students, or to write about those clinical insights in an application essay. Some health professions programs will want applicants to document their time spent in practices. At a minimum, most admission committees expect that students will have knowledge of the profession, will understand the role of their selected profession in the health care delivery system, and will have a sense of the ethical and legal issues confronted by practitioners.

High school teachers and counselors can help students learn about health care professions by organizing and sponsoring pre-health professions clubs where students can meet individual practitioners or participate in field experiences in health care settings. Teachers and counselors may also be able to arrange for prospective students to speak with current health professions students to find out what their educational experience in professional school is like. Once they enter college, students should consider joining pre-professions activity clubs or honoraries as such groups often organize opportunities to explore health careers. Prospective students should also explore the many career options that they have in the health professions. Besides working as a general practitioner in any of the five fields, students can seek specialty training, or can become health researchers, faculty in health professions schools, or administrators of medical services in community, hospital, managed care, or industrial settings



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Selecting the Appropriate Undergraduate Course Work

During their high school years, students should take advanced course work in science and mathematics to prepare them for their college curriculum. Once in college, students are often surprised to learn that they are not required to major in a science field in order to apply to a professional school. In choosing an undergraduate major, students should select an area of interest that will provide a foundation of knowledge necessary for the pursuit of several career options that may include professions inside and outside of health care (Moller 2001). Most health professions programs encourage students to pursue a broad and rigorous undergraduate curriculum. While students may choose either science-based or nonscience-based majors, health fields typically require that all entering students have a solid background in the biological, social, and behavioral sciences.

Health professions programs stipulate core courses, or prerequisites, that must be completed prior to application, which form the foundation for biomedical studies. Most medical and dental schools require a year of biology, general chemistry, organic chemistry, and physics with laboratory experiences and a year of English composition and literature, and/or communication course work. Classes in mathematics, biochemistry and behavioral science are required at some schools. Other science courses that well-qualified applicants should consider taking as preparation for medical or dental school include anatomy, biochemistry, cell biology, genetics, immunology, microbiology, molecular biology and physiology. Non-science courses that provide a helpful background include psychology, sociology, cultural differences, statistics, public speaking, and foreign language study, especially Spanish.

Because colleges of pharmacy do not stipulate a standard set of pre-pharmacy requirements, prospective applicants must determine the pharmacy prerequisite course requirements at the schools where they plan to make application. Although the prerequisite course work may differ by institution, most physical therapy programs require a year of general chemistry, physics, and biology with laboratory experiences. Physician assistant programs usually require a year of general chemistry, a year of biology (often specifying a course in microbiology), and a year of human anatomy and physiology. Both physical therapy and physician assistant programs also encourage students to complete course work in the social and behavioral sciences. In all cases, students should contact admission counselors in the allied health programs to confirm the science prerequisites.

Identifying the Professional Degrees Available

Both medical and dental schools usually prefer that applicants complete their four-year baccalaureate degrees prior to entering those professional schools. Most medical and dental schools are four-year professional degree programs starting after the students complete their undergraduate degrees. However, combined degree programs, beginning after high school, that link undergraduate and medical curricula into a B.A. or B.S.-M.D. degree or B.A. or B.S.-D.D.S. or D.M.D. degree are made available by a small number of U.S. medical and dental schools (Moller 2001; AADS 2000).

At present, most pharmacy, physical therapy, and physician assistant programs award undergraduate degrees, but program structures are changing. The Doctor of Pharmacy degree will soon stand as the sole professional degree granted by Colleges of Pharmacy in the United States (ACPE 1997). In the new program structure for pharmacy, students would complete a four-year professional doctoral degree program after a minimum of two pre-professional years of undergraduate preparation. The trend among physical therapy and physician assistant programs is also toward the granting of graduate degrees. Many of these allied health programs are in a transitional status, moving from offering baccalaureate degrees to the granting of master's degrees at the completion of their educational programs.

Preparing for Standardized Tests

Standardized tests are often required of applicants to health professions programs as one uniform objective measure to use in evaluating academic preparedness and potential. Admission officers cite the helpfulness of standardized examination scores in comparing applications from students who have attended one or more institutions and have taken a variety of science and nonscience courses over different time periods—all factors that are considered when comparing grade-point averages.

To prepare for standardized examinations, students should be thoroughly familiar with the subject matter being tested and the types of items commonly used on the examinations. For example, will they have to read and evaluate information from a given passage, interpret charts and graphs, complete computational exercises, or write essays? Students should learn how the standardized examination scores are weighted in the admission process, and when they should sit for the examination in order to submit test scores in a timely manner.

Nearly all health professions programs require that students submit a score on a particular standardized test as part of their admission procedures. In medicine, students must sit for the Medical College Admission Test (MCAT). Dental schools require applicants to take the Dental Admission Test (DAT). About half of the colleges of pharmacy require the Pharmacy College Admissions Test (PCAT) for admission (AACP 1999). In addition to the PCAT, many pharmacy schools require the American College Testing Assessment (ACT) or the Scholastic Aptitude Test (SAT). The Graduate Record Examination (GRE) is usually required for students applying to master's or doctoral level programs in physical therapy. Physician assistant programs may require that applicants submit scores from one of several standardized examinations including the ACT, SAT, GRE, or the Allied Health Professions Admissions Test (AHPAT).

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Application Process and Time Frames

After completing their junior year of college, most students submit applications to medical school between June and November or December. Those applications are for positions in entering medical classes that begin in July or August following the senior year. Most medical schools in the United States subscribe to the American Medical College Application Service (AMCAS) program, a centralized application service streamlining the process of applying to participating U.S. medical schools (Moller 2001). Students submit their application to AMCAS, which then forwards the application to the medical schools designated by the student. Medical schools may also request that selected students complete a secondary application addressing additional information related to the selection criteria at their school.

Nearly all U.S. dental schools participate in the American Association of Dental Schools Application Service (AADSAS), the national application service for dentistry. Applications are accepted by AADSAS from May 15 through March 1 for admission the following fall. Most dental schools also request that selected applicants submit a secondary application.

Colleges of pharmacy are working together to devise a centralized application. However, at the current time, each program develops its own application and designs its own admission process. While schools vary on application time frames, students applying to pharmacy school can generally make application from late fall until as late as March, prior to beginning pharmacy school the following fall. Most physical therapy and physician assistant programs specify application deadlines and conduct one admission process annually. Currently, students seeking admission to physical therapy programs must make application to each individual institution. About half of the physician assistant programs across the United States are served by the Central Application Service for Physician Assistants (CASPA). Physician assistant programs that do not subscribe to CASPA will require students to submit a separate application to their institutions.



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Letters of Evaluation

Letters of evaluation or evaluation forms are important to admission committees as they provide information on the academic qualifications and personal qualities of the applicant. Because health professions admission committees want current impressions of students, they usually prefer to receive letters of evaluation from college faculty, not faculty from high school. The ideal author of the letter of evaluation is the college faculty member who has had the opportunity to observe the student in the classroom, laboratory, or work setting and who can comment on the student's academic ability, intellectual curiosity, and personality characteristics that suggest suitability for pursuit of a health professions education.

Students should be advised to get to know their college faculty well early in their undergraduate studies. To facilitate such interaction, students should meet with their potential faculty evaluators to describe their career goals and discuss performance in their courses. Once faculty becomes better acquainted with the students, they should be in a position to comment on important factors related to the readiness of the student for a health professions education. Such factors considered by health professions admission committees include the personal characteristics of applicants such as their humanistic qualities, honesty, integrity, and motivation; their interpersonal qualities such as attitudes toward others, enthusiasm, team orientation, sense of cooperation, and communication skills; and their classroom abilities such as work ethic, classroom attendance, ability and preparation (Chapman and Lane 1997).

Interviews

Interviews are a component of the selection process of many health professions programs. They are used to gather information about the applicant's professional goals, personal characteristics, and interests; verify information included in the written application; and provide another perspective into selection decisions (Edwards, Johnson, and Molidor 1990). In addition, the interview is the applicant's opportunity to show committee members that he or she should be admitted to the entering class. Usually only competitive applicants are invited to interview at health professions schools. After screening applications and inviting selected applicants to interview, the admission committee is conveying that, at least on paper, those applicants appear to have a good probability for success in the school's curriculum.

Interviews can be conducted by one or more interviewers who speak with one or more applicants. Interviewers can be health professions faculty, administrators, students, or community practitioners. The purpose and content of interviews for health professions programs will differ by institution. Applicants should acquaint themselves as much as possible with the nature and format of the interviews. Interviews are intended to evaluate the applicant's personal characteristics, interests, goals and commitment to the profession, leadership experience, and participation in community service activities. Regardless of the questions asked, candidates' interpersonal and communication skills are most often the focus of the interaction.

Preparing for an interview is one way that applicants can enhance their chances for an offer of admission. Students should reflect on their reasons for pursuing a health career and be able to point to experiences that they have had which have reinforced their commitment to a professional education. To assist students in preparing for interviews, advisors can organize mock interviews to help them anticipate questions, think through answers, and increase their comfort level.

Gaining Admission

Admission to health professions schools is very competitive and requires applicants and their advisors to have a good understanding of the admission process. The most qualified applicants are usually those individuals who have planned ahead and performed well academically. Admission committees seek applicants who have the academic preparation, record of performance, non-academic qualities and broad backgrounds that suggest that these individuals will have successful experiences in the curriculum. In addition, they desire applicants who are committed to their profession and will represent their institutions well after graduation in meeting the health care needs of the public.

Since there is no single litmus test that will assist admission committees in selecting the best future health care providers, applicants must first meet specific criteria if they wish to receive serious consideration. To that end, admission decisions are generally based on the applicant's: (1) academic preparation, (2) performance on standardized examinations, (3) exposure and commitment to the profession, (4) letters of evaluation, and (5) interview results. Having this understanding of what professional programs are seeking can often place applicants at a distinct advantage. High school teachers and guidance counselors as well as college admission counselors and pre-health advisors can facilitate the success of their advisees in the admission process.

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