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[Guidelines for premedical students at the
University of Georgia]

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GUIDELINES FOR PREMEDICAL STUDENTS
AT THE UNIVERSITY OF GEORGIA

Cover: Hippocrates Visiting Democritus, by Jacob Backer (a student of Rembrandt) circa 1640. It depicts Hippocrates, the famous physician, visiting Democritus in the ancient town of Abdera, in Greece. The Abderites had thought Democritus crazy because he spent most of his time dissecting animals and studying plants. Hippocrates came to examine Democritus, only to find him one of the wisest of men.

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GUIDELINES FOR PREMEDICAL STUDENTS
AT THE UNIVERSITY OF GEORGIA



Prepared by

Norman G. Sansing, Ph.D

Associate Professor of Biochemistry

and

Chairman, The Premedical Committee

Franklin College of Arts and Sciences

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TABLE OF CONTENTS

	<u>page</u>
Foreword	iv
I. The Decision to Pursue a Career in Medicine	1
II. The Advising Program	4
III. Planning the Program of Study	
A. Premedical Requirements	7
B. General Degree Requirements	7
C. Requirements for the Major	9
D. Courses Desirable, But Not Required	9
IV. The Admissions Process	
A. Factors in Medical School Selection	11
1. Overall Academic Record	11
2. MCAT	12
3. The Evaluation	14
4. The Interview	16
5. Extracurricular Activities and Work Experience ...	18
B. The Application	20
1. Where to Apply	20
2. AMCAS	21
3. Timetable	23
4. Supporting Documents	23
V. Financing a Medical Education	25
VI. If You Are Not Selected	
A. Reapplication	27
B. Foreign Medical Schools	28
C. Alternative Careers	29
VII. Medical School Policies and Special Programs	
A. Early Decision Plans	31
B. Early Admission	31
C. Uniform Notification Dates	32
D. Joint Degree Programs, MD/PhD, MD/JD, etc.	33
E. Minorities	33
F. Three Year Programs	35
G. Irregularities	35
VIII. Special Programs and Policies at the University of Georgia	
A. The Honors Program	36
B. Advanced Placement and CLEP Credit	36
C. Alpha Epsilon Delta	38
D. Unsavory Practices	38
IX. Concluding Remarks	40

FOREWORD

These guidelines were prepared specifically for those students in the Franklin College of Arts & Sciences who are preparing to enter the field of medicine. The comments and suggestions are directed to the typical premedical student who may be described as well above average in both aptitude and motivation. Many of these suggestions will not necessarily apply to the truly exceptional student nor to those below average in ability. Students considerably older than average, particularly those who have completed the baccalaureate degree before deciding to prepare for medical school, will have special needs that are not adequately covered. These recommendations are considered to be sound for the typical premedical student and are based on experience gained during several years of advising students as well as discussing the problem of preparing for medical school with faculty and students in a number of different medical schools. These guidelines should not, however, be viewed as a program which, if followed, will guarantee admission to medical school and a successful career in medicine. There are few short cuts which may be used to enter the medical profession and there are no guarantees of success. Those traits which most often predict success in medicine are the obvious ones involving hard work, high aptitude and good judgment.

This booklet is distributed to all newly enrolled students who are urged to read it in its entirety then refer to it periodically to help answer specific questions as they may arise. Students may also wish to share this information with their parents to help them better understand what is now required to successfully complete a premedical program and gain admission to medical school. Questions not covered in this booklet may be answered during the quarterly advising appointments for registration or during the general information sessions held each spring and fall quarter.

The competition for admission to medical school has become very intense during the past few years and it is essential that students planning to apply for admission be well informed if they are to be competitive. Many of the rules and much of the advice which was given 8 or 10 years ago is no longer applicable. The sole purpose in preparing this booklet is to offer information which will assist students in planning their undergraduate program and offer some general advice about things which may make an applicant more competitive. These suggestions should be viewed in the same perspective as any other well meaning advice. It is intended to suggest a course of action which experience has shown will aid the typical student. Nothing contained in these guidelines should be viewed as absolute or required except those courses which have been outlined as minimum requirements for admission to medical school. Ultimately, it is the student who will succeed or fail when evaluated on the basis of the record he/she has earned. Hence, the final responsibility for making any decision regarding the academic program must rest with the student and not with an advisor.

Comments and suggestions for improvement in any aspect of these guidelines will be most welcome.

I. THE DECISION TO PURSUE A CAREER IN MEDICINE

One of the most important decisions that a person will ever make is the choice of a career. This choice will determine to a large extent the lifestyle, earnings, and prestige that a person will enjoy and it will have many other influences that are too numerous to catalog in this brief discussion. A great many young people enter college expecting to become medical doctors, but with little real knowledge of what is involved in the practice of medicine. They know that physicians have much better than average incomes, that medicine is a highly respected profession, and that an opportunity exists for service to their fellow man. But these students often have little real understanding of the stresses and demands made by the profession on its practitioners.

Most premedical students are aware that the competition for admission to medical school is very intense and they may be aware that only one applicant in three successfully gains admission even though at least half of those rejected would, by common agreement, have no trouble in completing medical school and would make competent, dedicated physicians.

What may the entering freshman who declares a major in premedicine expect during the first eight or ten years after entering college? During the undergraduate years, there will be a great deal of competition from other very bright students and the courses required will be quite rigorous. There will be a great deal of uncertainty and anxiety as the student prepares to take the Medical College Admissions Test and applies for admission to medical school.

If the student is successful in obtaining admission to medical school, what can be expected as a medical student? It's beyond the scope of these guidelines to attempt to describe in detail the pressures and demands of a medical education, but a few comments may help the poorly informed premedical student to begin to understand a bit more about the realities of medical school.¹ First, there is considerable stress on most medical students. Only a few of the numerous reasons for this will be mentioned. The greatest stress is probably due to the workload. Most medical students agree that the amount of material required to be assimilated goes up by a factor of two or three compared to their workload as undergraduates. The pressure generated by constantly working with people who are sick and often dying is emotionally very difficult for many. Seeing death first-hand makes many people much more aware of their own mortality, leading to emotional pressures.

For many there are considerable stresses developed in financing a costly medical education. It is not unusual for students graduating from medical school to be \$15,000 or \$20,000 in debt. There are also the physical and psychological demands made by very long hours of work. These demands do not cease upon graduation, as those who are familiar with the long hours required for the successful practice of medicine can testify. These pressures are particularly difficult for the spouse of the medical student. Many are unable or unwilling

¹For a more complete discussion of this topic, see "Medical Student: Doctor in the Making", by James A. Knight, M.D. (order information in Appendix I).

to accept the fact that the demands of the profession must usually take precedence over the needs of the family for a person in medicine. It takes an exceptional spouse to adjust to this fact and not make demands on their mate which will ultimately do them professional harm.

The work itself is often unpleasant and can be highly stressful (as anyone who has been involved with trauma cases will agree). Many people are repulsed by having to "violate" the human body. Some of the things that must be done to seriously ill or injured people will be unpleasant and stressful. In some of the primary care areas (particularly pediatrics and family practice) the work tends to be routine, often unstimulating intellectually and sometimes boring. Most of medicine is not like the TV image created by the Marcus Welby and Medical Center programs.

It's true that a physician will have the expectation of a much better than average income after completion of the many years of training and the economic hardships that result from these long years. The AMA has recently estimated that the average annual income of a self-employed physician is in the mid 40's. However, if a person's primary motivation for entering the medical profession is to make a great deal of money, he/she should go instead into real estate, banking, or into some fast growing retail business or service or some similar profession. If the same amount of time and talent is invested in your own business as is required for a highly successful medical practice, as a surgeon for example, the economic returns will probably be much greater in business than in medicine over the long run.

Many knowledgeable observers believe that the golden years of medicine may very well have been through the 1960's and early 1970's. The prestige of the physician is being eroded. Many patients now view their physician as an over-paid professional who has little personal interest in their well being, not as their friend. One reason contributing to this attitude is the increased specialization in medicine which rarely results in the formation of long-time associations and friendships which were the rule a generation ago when most people went to their general practitioner for essentially all their health care needs. The rising level of expectation of the patient is another reason for lack of trust, increasing hostility toward the physician, and for the increase in the number of malpractice suits. The past 30 years have seen tremendous advances in the science of medicine and in the availability of highly effective new drugs and treatments. Many patients now expect their physician to be a miracle worker and unless miracles are wrought, the tendency on the part of many is to sue.

Freedom to practice medicine where and how you please is also being challenged. The federal government has recently mandated that there will be a decrease in the number of persons being trained in certain specialties. Some observers feel that there is a good likelihood that many students accepted into medical school in the future must agree to practice in under-served areas as a condition for admission. This provision was narrowly defeated in the last health manpower legislation. The new administration in Washington has promised some type of national health insurance program which will probably have the eventual effect of setting fees for physicians. By the time freshmen entering college today establish their own practice (in 8 to 12 years) there may be some rather dramatic changes in the medical profession.

This is not to say that our best students should no longer aspire to careers in medicine. It is an honorable profession which will continue to reward those who have the talent and dedication to practice it competently and compassionately. But premedical students must be aware of some of the trends which appear to be shaping the future of the medical profession. A number of programs will be held during the academic year which are designed to inform our students about such changes. Most of these programs are sponsored by Alpha Epsilon Delta, the premedical honor society and they typically consist of a speaker who may be a physician, a medical educator or a medical student who will candidly describe their profession and discuss its future. Such programs are supplemented by field trips to the in state medical schools, also sponsored by AED. All students are urged to attend such programs and participate in these field trips since membership in AED is not required for participation.

Students unsure whether or not to continue in premedicine should keep their options open and learn as much as possible about the medical profession. The decision to stay in premedicine can be deferred quite easily through the first two years of college and perhaps through the 3rd year without loss of credit when changing to another major, for the suggested program through the first two or three years consists primarily of courses which can be applied to practically any degree program in the College of Arts & Sciences. A recurring theme in the advice given to students in premedicine is keep your options open. Do not take courses which restrict your freedom to pursue different majors or narrow your choices. Indecision about a career is usually corrected with time, if a real effort is made to learn more about the career. The people who most often feel trapped by circumstances are those who have lost their ability to make logical choices because they made a premature committment which is not easily reversed. A major objective of the premedical advising program is to prevent this from happening to our students.

II. THE ADVISING PROGRAM

The courses offered in the Franklin College of Arts & Sciences compare very favorably with those in the strongest colleges and universities in the country. For a student to take full advantage of these course offerings, however, the proper course must be taken in the proper sequence and with the proper prerequisites. Premedical advisors in the Franklin College are available to assist students in planning a program which will give them a strong, competitive undergraduate education. In addition to helping a student plan his/her program of study, the Premedical Advising Office will assist in a number of other ways. Liaison is maintained with the Association of American Medical Colleges and the medical admissions committees of a number of medical schools. This allows for the timely dissemination of information regarding changing policies or requirements for admissions. The Premedical Office coordinates a tutorial for the MCAT which begins in January each year (see p. 13 for a description). Various registration and application forms are available from the Premedical Office and assistance is available in the preparation of various documents required to support an application, including a composite evaluation (described on pages 14 through 16). The Dean of the Franklin College has allocated considerable financial and personnel support to insure that students studying premedicine in the College will be well advised. Students are urged to become familiar with the services available and to make full use of this assistance.

Freshmen admitted to the University of Georgia who plan to pursue a career in medicine should enroll in the Franklin College of Arts & Sciences with the major designated as "Premedicine" (even if a departmental major has been chosen). This allows the student to be identified by the Premedical Advising Office so that assistance can be provided. It also aids the program by identifying those students who should be included in certain reports, those eligible for certain awards (such as the Nuttycombe award) and eligibility for AED and other honors. If a student enrolls with a different major, then decides to change into the premedical program, he/she should complete a "Change of Major" form, which is available in the Dean's office (Student Records Section).

Premedicine is not a degree program per se, but an intention. There is an exception for students given early admission to MCG. This program is described on page 32. At the end of the sophomore year premedical students must choose a departmental major. They should then complete a "Change of Major" form, listing their major as Biology/PM, Chemistry/PM, Microbiology/PM, etc. The "PM" suffix is only for internal use and will not appear on the degree or on final transcripts. Premedical students will be advised by an academic advisor in the department selected for a major during the junior and senior years.

During the freshman and sophomore years premedical students are advised by B.S. advisors appointed by the Dean of Arts & Sciences. Appointments to confer with these advisors may be made in the Premedical Advising Office. Each student should meet with his/her advisor quarterly to review the program and register for the coming quarter. Appointments should be scheduled early

in the quarter. Students should be on time for the appointment and should be prepared with a trial schedule which includes call numbers of the proposed courses. If an appointment must be broken, the student should call the advising office in sufficient time that a new appointment may be scheduled in the time slot. Students who are habitually late or who fail to keep their appointments are viewed very unsympathetically by advisors. Due to the size of the program, it is obviously impossible that one or two individuals will be able to personally advise every student in premedicine. Assignment of students to an advisor is done on the basis of cumulative grade point average, with those students maintaining the highest average, hence having the best chance of being admitted, assigned for advisement to the most experienced advisors.

Premedical advisors are available to assist at other times but the initiative for assistance must come from the student. Students must realize that advising is only one small part of the assigned duties of a faculty member and they should try to see their advisor during posted office hours. In a real emergency, most advisors are willing to stop whatever they are doing and help solve a problem. However, it is not realistic for the student to expect that an advisor will drop whatever he or she is doing and meet any time that a student feels the need to pay a social visit outside office hours.

In addition to the quarterly meetings with an advisor, students in premedicine are urged to attend the general information meetings which are held each spring and fall quarter, usually scheduled by class. Topics of interest to the particular class are discussed and questions answered in these group advising sessions. For example, in the spring a meeting is held for sophomores with the program consisting primarily of short talks by the department heads or their representatives from the various departments in which most premedical students major. Each will describe degree requirements in their department, employment opportunities (if the student does not attend medical school) and provide other information which will aid the student in choosing a major. AMCAS applications will be distributed at the junior class information meeting in the spring and detailed instructions will be given on completion of the application and supporting documents.

The information meetings allow continuity to be maintained with upper division students who register each quarter with their departmental academic advisors and allows better interaction with students who register with Honors Program advisors or others in special programs. Notices for these meetings (as well as other programs such as the visits by Medical Admissions Committees, field trips, etc.) are announced on the AED bulletin boards. Attendance at these meetings has been poor in the past year. They serve an important function, but unless they are better attended in future meetings, they will be discontinued.

The Chairman of the Premedical Committee is available before and after the regular registration period to meet with any student in the College (preferably by appointment) to answer questions regarding any aspect of medical school preparation. Juniors and seniors should see their departmental academic advisor for quarterly registration. Premedical advisors are not usually completely familiar with each department's requirements, nor will they have the latest information about when courses will be taught, suggested prerequisites for courses in the major, etc. A student may be inadvertently misadvised by a premedical advisor on requirements for the major.

Postbaccalaureate students enrolled in the Franklin College as irregular, non-degree students while they complete requirements for medical school admission should register each quarter through the Premedical Advising Office. Such students are usually on a very tight schedule and they must carefully coordinate their courses so as to meet deadlines for taking the MCAT, preparing evaluations, etc.

The final responsibility for any decision regarding the academic program rests with the student and not with an advisor. The advisor should explain the options, including requirements which must be met, but the final decision as to when and what a student will take must be made by the student. Good judgment will be required, for there are many options available and many decisions to be made. The mature student will have as much information as possible on which to make any decision. One of the best sources of information will be your fellow students, particularly those ahead of you who have already taken the courses and who are acquainted with the instructors, etc. It is often a mistake to register for a course with no idea who will teach it and perhaps only a hazy idea of what is covered in the course. The better informed student will be in a much more competitive position.

It should again be stressed that the only reason for having an advising program is to assist our students in any honorable manner in preparation for and gaining admission to medical school. The success of the advising program is measured by the success of our students, therefore the interests of the student and the interests of the Premedical Advising Office coincide completely.

III. PLANNING THE PROGRAM OF STUDY

When planning the program of study, a student must keep in mind that he must usually meet three different sets of requirements. First are the requirements of the medical school which must be completed before an applicant matriculates. Second are the general degree requirements which are set by the faculty of the college for a particular degree. The third list of requirements are those set by the departmental faculty for the specific major. Planning must also include completion of the subject matter on which a student will be tested for the MCAT before taking the test. Each of these specific requirements will be discussed in turn below.

A. Premedical Requirements:

There are some variations among the schools, but about 90% of U.S. medical schools will accept as minimum science courses one year each of general chemistry, general physics, general biology and/or zoology and organic chemistry, all with the appropriate laboratory. Most medical schools accept a quarter of biochemistry in lieu of the third quarter of organic. Requirements for specific medical schools are found in chapter 11 of the AAMC publication "Medical School Admissions Requirements." This booklet (henceforth referred to as MSAR) is an invaluable source of information for any premedical student and it should be purchased by every serious premed.¹ The latest edition of the MSAR should be consulted before completion of the application so that a student is assured of having all requirements for each school to which he/she applies.

B. General Degree Requirements:

An early decision which must be made is whether to pursue a B.S. or an A.B. degree. Medical admissions committees have no particular preference for one degree program over another as long as a student has completed all requirements for admission and has high scores on the MCAT. The majority of students at the University of Georgia find it easier to complete requirements for the B.S. degree given the science requirements which must be completed for admission to medical school. For the typical A.B. student, additional science courses are required over and above those needed to complete requirements for the degree, which may add one or two quarters to the undergraduate program. A few students will be admitted to medical school before completion of the baccalaureate degree, but their numbers are very small, typically two or three per year from the Franklin College. This topic will be covered in Section VII under Special Programs. Even students with outstanding credentials cannot be assured of admission after completing only three years of college, hence every serious premedical student should plan a program to include completion of the baccalaureate degree before matriculation in medical school.

Requirements for the B.S. degree are listed in Appendix II. Well prepared entering freshmen typically exempt some of the courses listed. In the case of English Composition, English 102 is usually taken, but English 101 is very often exempted on the basis of a writing placement test given during summer orientation. For a B.S. degree, third quarter proficiency is required in a foreign language. This proficiency may be demonstrated either by testing (exemption is earned on the basis of CEEB achievement scores) or by taking the courses.

¹Information needed to order this book is given in Appendix I.

There is a considerable amount of misinformation regarding the language requirement. Any foreign language offered at the University of Georgia, modern or classical, will satisfy this degree requirement and medical schools have no preference. The choice of the language is strictly a personal decision. Students should choose a language which they enjoy and one in which they have some special interest. Many students choose Spanish, a good choice for those people who expect to live and perhaps practice in an area where Spanish is often spoken, such as parts of the American southwest, or large metropolitan centers. Other students continue the study of the language they had in high school with or without exempting one or more quarters. If a person exempts one or two quarters of a foreign language, this exemption is given without credit, which merely means that one or two quarters of language may be skipped, and the student begins at the second or third quarter level. The hours normally required will accrue as free electives. If a person exempts the third quarter of a language, 5 hours of credit for graduation is received, and the student has completed the language requirement for the B.S. degree. A person may choose to begin with 101 or 102 and receive full credit for the course even if one or two quarters may be exempted on the basis of the CEEB test. This is often desirable if a person has lost some of his facility with a language due to lack of use. If a person chooses to exempt one or two quarters of a language, it should be scheduled in the freshman year, before too much is forgotten.

Ten hours of literature are required for the B.S. degree. This will normally be taken as English 131 or 132, Comparative Literature 121 or 122, or Classics 120 or 121. The literature may be taken in a foreign language, if the student has demonstrated fourth quarter proficiency. For example, German or French 201 and 202 may be used to satisfy part or all of these 10 hours. Premedical advisors may help in the decision of which literature to take.

Ten hours of history are required. Most students will take at least 5 hours of American History (HIS 251 or 252). This satisfies the University System requirement for Georgia and American history. Otherwise a student must pass a proficiency test in this area. Any course in history numbered between 111 and 399 may be used to satisfy the history requirement.

Twenty hours credit is required in the social sciences/humanities. The courses most often used to satisfy this requirement are chosen from among the following: ANT 102, CLC 310, ECN 105, FA 300, POL 101, PSY 101, PSY 258, PHY 104, PHY 305, REL 115, SOC 105, and SPC 108. Many other courses will satisfy this requirement including additional courses in foreign language, literature, history, the fine arts, or courses in any of the other social sciences or humanities.

Most well prepared students will exempt part of the mathematics requirement on the basis of placement tests. MAT 100 (college algebra) is usually exempted with credit and some students will exempt more. Fifteen hours credit is required in mathematics for the B.S. degree, and this must include MAT 253 (analytical geometry and differential calculus). However, a majority of the departments in which most premedical students major also require MAT 254 (integral calculus). Premedical students should take MAT 254 while they are in the math sequence. This not only keeps open the available options concerning majors, but MAT 253 and 254 make a logical sequence

which gives the student a sufficient knowledge of the calculus to solve most problems encountered in the upper division science courses typically taken by premedical students. It should also be noted that many of the prestige medical schools require calculus for admission and most suggest it as a highly desirable elective.

The science requirements and the math/science electives for the B.S. degree will be met with three quarters each of biology/zoology, inorganic chemistry and physics (which are minimum medical school requirements for admission) plus MAT 254. The organic chemistry required for admission will satisfy requirements in the major, as a major subject for chemistry majors, or as a related science for students in other majors.

There has been considerable discussion as to whether a student in pre-medicine should take the chemistry 340 sequence or the 240 sequence. It is usually recommended that the 340 sequence be taken. There are 3 quarters (a full year) or 15 quarter hours available in the 340, 341 and 342 sequence. A few medical schools require that a full year of organic be taken and will not allow substitution of the 3rd quarter with a quarter of biochemistry. A third quarter of organic is not possible for the person who has taken the 240 and 241 sequence. It is very difficult, if not impossible, for a person who has taken the 240 sequence to major in chemistry. Hence, taking the 340 sequence keeps open some additional options. Some medical schools, including Emory, prefer that the applicant have the organic course with chemistry majors. They therefore give some preferential consideration to the student with CHM 340 and 341.

C. Requirements for the Major:

The vast majority of students from the University of Georgia who are accepted to enter medical school receive a B.S. degree with a major in either Biochemistry, Biology, Chemistry, Microbiology, Psychology, or Zoology. Space limitations do not allow a full discussion of the requirements in each of these programs. This topic will be discussed at the general information meeting in the spring quarter, and information is always available from departmental advisors.

The choice of a major should not be hastily made. In addition to a consideration of the course requirements in a particular department, the prudent person must consider what he will do if he is not accepted in medical school. The available options, without extensive additional training, will be largely determined by the academic major.

The medical admissions committees have no preference for one major over another. They prefer that a person have a broad liberal arts background as opposed to a narrow, technical background, but the requirements set by the college insure that this is the case and any of the majors listed above would satisfy this requirement equally well. A student will typically do much better work in a major in which he has a real interest. It is usually a mistake to major in some discipline which the student does not enjoy in the mistaken idea that this major will improve the chances for acceptance.

D. Courses Desirable, But Not Required:

Many of the courses listed in this section may be required by some of

the majors. The courses will be listed in two categories. The first category is for courses which should be taken by all premedical students unless some special circumstances prevent their being scheduled. These include BCH 310, BIO 320, CHM 280, MIB 350 and ZOO 226. The second category of courses will be helpful and desirable, if time permits that they be taken. This is not an exhaustive listing, and no student will be able to take all these courses. The second category of helpful courses include BCH 401 and 402, BIO 330, BIO 340, BIO 380, CHM 342, MIB 410, MIB 450, ZOO 225, ZOO 227, ZOO 355 and ZOO 484.

Students are cautioned against trying to take the first year of medical school during the senior year in college. Experience has shown, however, that if a student has a good acquaintance with some of the courses which will be taken during the freshman year in medical school, the first year will be less stressful and the student will get off to a much better start.

During the 1977-78 academic year a new 2 quarter sequence in Introductory Biology will be offered for the first time. This course (BIO 111 and 112) is designed for life science majors and will be more comprehensive than BIO 101 and 102. Premedical students should elect this course if they have a reasonable background in biology, even if a major in the physical or social sciences has been tentatively chosen.

Experience in independent scientific research is highly regarded by most admissions committees, especially if the student is able to publish the findings or write an honors thesis. This type experience is invaluable for a person who aspires to a career in medical research and/or teaching, but it is very useful for any premedical student. The problem need not have direct medical application to be a valuable learning experience for the student.

Premedical students are cautioned not to make a practice of enrolling in courses, then withdrawing before the deadline with a W. A sprinkling of W's on a transcript would be a cause for concern for many premedical committees. One or two W's will not usually adversely affect a person's chances for admission, but several W's, even with a good GPA, would be viewed very apprehensively. Recent changes which considerably shorten the time that a person may withdraw and not receive a WF may help eliminate part of this problem.

AED has recently initiated a course/instructor evaluation which should aid premedical students in the choice of both courses and instructors. The results of this effort should be available early in the 1977-78 academic year. Watch the AED bulletin boards for information about when and where these evaluations may be obtained.

IV. THE ADMISSION PROCESS

A. Factors in Medical School Selection:

Medical schools utilize an admissions committee appointed by the Dean of Medicine for selection of the entering class. The size of the committee will vary from school to school, but it will normally be composed of M.D.'s from the clinical faculty, PhD's from the basic science faculty, and medical students, normally those in their third or fourth year. Year to year changes in the composition of the committee at any particular school is often reflected in slightly different emphasis on selection factors. However, all medical schools would like to select students to fill their entering classes who exhibit evidence of high intellectual competence, a record of accomplishments, and personal traits which indicate ability to communicate with and relate to patients in a realistic yet compassionate manner.

The admissions committees strive for objectivity as much as possible in making their decisions regarding admissions, hence, there is a great deal of emphasis on grades, scores on the MCAT, and other factors which can be easily measured. However, the admissions committees will consider any information which is available regarding an applicant. If such factors as state of legal residence, age at time of application and other rather absolute factors are ignored (i.e., you comply with their particular requirements or you do not), there are four factors which will largely determine whether or not a particular applicant is accepted. These are: 1) overall academic record, 2) scores on the MCAT, 3) evaluations from faculty members who have had the applicant in class and, 4) impressions made during a personal interview. A fifth factor which may have some bearing on the decision (but not generally equal in weight to the other four) is work experience and other extracurricular activities. Each of these will be discussed in turn below.

1. Overall Academic Record. The undergraduate record is the most important single factor in predicting whether or not a student will be admitted to a particular medical school. Most medical admissions committees feel that the quality of work in the subjects taken leading to the baccalaureate degree is the most important indicator of probable success in medical school. The academic record includes the cumulative GPA, subjects taken, rigor of the major and trends in performance (i.e., were grades mediocre in the freshman year with a constant improvement during the sophomore and junior years, or vice versa or was performance relatively constant?). A good undergraduate academic record is considered evidence of both ability and motivation, hence, the heavy reliance by committees on this factor. Succinctly stated, if a student has both high aptitude and good motivation, a competitive academic record will be maintained.

Grades are not evaluated alone but rather in the context of the total academic program with such factors as part-time employment, participation in varsity sports and other severe demands on study time looked upon as extenuating circumstances. The undergraduate academic record should be stressed since it's difficult to compare records made in graduate or professional school or as an irregular student taking carefully selected courses with those made by an undergraduate student in a regular degree program.

2. The Medical College Admissions Test. The Medical College Admissions Test (MCAT) has traditionally been second in importance only to grades when evaluating an applicant for medical school. Many AMCAS schools that recruit from the national pool conduct a preliminary screening based entirely on GPA and MCAT scores and secondary applications are not invited unless certain minimum scores are exceeded. Even if a secondary application is accepted, most medical schools select applicants to be interviewed on the basis of combined GPA and MCAT scores, hence the importance of the MCAT can be easily ascertained.

The MCAT is given twice each year, in late April or early May and again in late September or early October. The latest that an MCAT test may be taken is in the fall approximately one year before an applicant expects to matriculate in medical school (i.e., applicants for the 1978 entering class must take the MCAT, at the latest, during the fall administration of 1977). However, applicants are urged not to wait until the fall of their senior year to take the MCAT, but to take it in the spring of the junior year. There are several reasons for this recommendation. First, if a student fails to score well on the test because of some factor completely beyond his/her control, such as illness, accident, etc., an otherwise highly qualified applicant may have to delay entering medical school a full year. If this should happen to an applicant in the spring, it is possible to re-take the examination in the fall.

There is considerable misinformation about the strategy which should be employed in taking the MCAT. Many premedical students have been advised to take the test "just for practice" the first time, then they are told to come back and prepare for the exam during a second and perhaps third test. This is generally very poor advice. One reason is that it is no longer possible to suppress the reporting of scores as was true in the past. Hence, your application will be accompanied by the results of all scores you have made on the New MCAT.

The format for the MCAT was completely revised with the first administration of the New MCAT in the spring of 1977. There is considerably more emphasis in the New MCAT on science topics. In the old MCAT, one of four scores reported was on science, and this score contained test results from topics in biology, chemistry and physics. The New MCAT reports six scores. There is a separate score reported for knowledge of chemistry, physics and biology, plus a single score on problem solving in these areas of science. The other two scores reported are for skills analysis in the areas of reading comprehension and quantitative problem solving. The reading comprehension test replaces the vocabulary test in the old MCAT. The quantitative section has more emphasis on solving medical problems. A knowledge of calculus is not necessary to work the problems on this section, and there are relatively few calculations to be made. Most of this section tests ability to read graphs, extrapolate and interpret data, etc. The New MCAT does not contain a section comparable to the old MCAT general information test. It may therefore be seen that four of the six scores reported will test knowledge and problem solving ability in science plus one each in reading comprehension and quantitative skills.

The level of scientific material which must be mastered before appearing for the test is typically covered in an introductory course. A specific topic outline in each of the disciplines tested is available in the New MCAT Student

Manual which may be obtained for \$3.25 from the Association of American Medical Colleges, 1 Dupont Circle, NW, Washington, D. C. 20036. The New MCAT manual is also available in the University Bookstore. Each serious premedical student is urged to purchase this book and become familiar with its contents before appearing for the MCAT. In addition to detailed information concerning the administration of the test and the topics covered, there are also sample questions which may be used to become familiar with the format of the test.

As a service to the premedical students at the University of Georgia, the Premedical Advising Office has organized a tutorial in which all topics covered in the New MCAT are reviewed by professors who are specialists in the areas to be tested. This tutorial is available to any student in the University at a very nominal cost and includes a practice test which is taken at the end of the review. The tutorial begins early in January and continues through April, meeting Saturday mornings and Tuesday evenings. Tutorials are not given during the summer (for persons preparing for the fall administration of the test). In the past a number of students have enrolled in various commercially available courses designed to prepare a student to take the MCAT. These courses tend to be very expensive and the main benefit from taking them was that a student had access to questions from old tests (which were illegally obtained). It was the practice in the old MCAT to recycle many questions. Hence, a student had a likelihood of seeing many of the questions on his/her test which had been previously reviewed. The New MCAT will contain no recycled questions and since a detailed outline of the subject matter to be covered is available in the New MCAT Manual, a student may review the information to be covered completely without the aid of commercial courses. The student who appears for the test without any review of the science topics tested will probably be disappointed in his/her scores.

New MCAT results are reported in scores from 1 to 15, using an equal interval scale. Mean scores for all sections are 8. Scores above 12 or 13 are rare. Tables are available to convert raw scores into percentile rank range.

There is some question as to what constitutes a good score. It is difficult to say what will be a good level of performance for a raw score until more experience with the test is available. However, a person scoring in the upper 1/3 nationally should be competitive on the basis of MCAT scores at most medical schools. This is based quite simply on the fact that one applicant in three is normally admitted. Under some circumstances it may be desirable to retake the test. A person considering retaking the test should do so only after conferring with an experienced premedical advisor or on the recommendation of some person on the admissions committee at a medical school.

Registration forms for the MCAT may be obtained from the premedical office or by writing MCAT Registration, P. O. Box 414, Iowa City, Iowa 52240. The registration material should be mailed well before the deadline, for if there is a mix-up, such as failure to sign the application, failure to enclose the registration fee of \$35.00 or failure to provide a picture, the form will be returned and no exceptions are made to the deadline date at which a complete registration form must be post-marked. The deadline is four weeks before the test.

Students are urged to complete the questionnaire which is part of the MCAT registration. This information is used only for statistical purposes and is not forwarded to the medical schools. Your anonymity is assured and the invaluable information which is collected is used in the compilation of statistics on medical school applicants. One final request, please check the form which will allow distribution of your test scores to the premedical advisor. To maintain an adequate advising program, these scores must be available to the premedical advisor, both for use in advising individual students and for the preparation of summary reports. Individual scores are never released without written authorization by the student concerned.

3. The Evaluation. An important part of the documentation used to support an application for admission to medical school is the faculty evaluation. There are three general methods used in preparation of such an evaluation. The first method uses individual letters of recommendation prepared by faculty members who know the applicant well, with an individual letter going to each medical school to which the student applies. Typically three faculty evaluation letters are required. A second method is a committee evaluation prepared exclusively by a premedical committee appointed by the Dean. A committee evaluation is typically prepared at small liberal arts schools where a majority of the committee would know each applicant. The third type is a composite evaluation generally prepared in a premedical advisory office. This method utilizes letters of evaluation from faculty members solicited by the applicant as well as comments and evaluations prepared by members of a premedical committee.

Medical admissions committees almost invariably prefer a composite or committee evaluation in preference to individual letters of recommendation, if the applicant is in a program where such an evaluation is prepared. Many medical schools now require that such a consensus evaluation be submitted, if available, in preference to individual letters. The reason for this preference should be obvious upon a bit of reflection. The credibility of a consensus evaluation is much greater, particularly the comments and ratings given by the members of the premedical committee, who see the entire applicant pool and can make meaningful comparisons and ratings. Committee members are therefore in a much better position to properly evaluate the applicant. Furthermore, the committee members are often known to the medical admissions committees and if they establish a good record over the years of successfully predicting that certain students with only marginal qualifications will do well in medical school, then their judgment is trusted much more by the medical admissions committee.

This is not to say that other individual faculty members cannot give very meaningful and worthwhile evaluations. An experienced faculty member can very often put a student's aptitude and motivation into excellent perspective with a few well chosen words. As a general rule, it is best to avoid temporary faculty, such as temporary instructors or teaching assistants, for their credibility is not usually high and they have had relatively little experience in writing such evaluations. It is important, however, that the person completing an evaluation know the applicant sufficiently well that they can comment on personal characteristics and not rely exclusively on such academic credentials as grades, which are already available in the transcript. Factors which the evaluation should address are often fairly subjective and include such things as motivation, human relations skills, compassion, and general character.

A composite evaluation is prepared by the Premedical Committee of the Franklin College of Arts & Sciences for all students in the college who request such an evaluation. Evaluations cannot be prepared for students in other colleges or students enrolled as regular graduate students who did their undergraduate work elsewhere. Evaluations may be prepared for irregular students who have a baccalaureate degree at some other college or university if they are enrolled at the time in the Franklin College.

The first step in obtaining a composite evaluation is to request letters of evaluation from selected faculty members. The letter of evaluation form may be obtained from the Premedical Advising Office, 2nd floor, New College, and distribution of these letters of evaluation may begin as early as mid-way through the sophomore year. Freshmen and 1st quarter sophomores are discouraged from requesting letters of evaluation. A minimum of three and a maximum of five evaluations should be submitted to the Premedical Committee. Transfer students may obtain one or two letters of evaluation from faculty members at their previous institutions. All evaluations should be from faculty members who have known the applicant in an academic setting and not from former employers, physicians, friends, etc. Although evaluations from these non-faculty members are often welcomed by the admissions committee, they should be solicited and sent directly to the medical admissions committee at the schools to which you have applied. Such forms should not be sent until receipt of the application has been acknowledged by the medical school.

An early decision which must be made is whether or not to waive right of access to the requested evaluations. Under the provisions of the Educational Rights and Privacy Act of 1974 (commonly known as the Buckley Amendment), a student may have access to a composite evaluation unless they have specifically waived this right. The student must be aware that a more candid and therefore a more helpful evaluation will usually be made if the instructor knows that the confidentiality of the evaluation is to be respected. A waiver form is found on the new letters of evaluation and the appropriate box must be checked and the form signed by the applicant before the evaluation letter is given to the evaluating instructor. A form entitled "Memorandum to Faculty Writing Letters of Evaluation" is also available at the Premedical Advising Office and this form should also be distributed with the letter of evaluation, usually in person. By requesting the evaluation in person you may give the evaluating instructor additional information about yourself, answer question and renew acquaintances if it has been some time since you have been in the instructor's class.

Letters of evaluation must be returned directly to the Premedical Committee, where they will be held until preparation of the composite evaluation begins, typically during the summer between the junior and senior year.

A composite evaluation is initiated by completing and returning to the premedical office a premedical committee information sheet. This is a formal request that a composite evaluation be completed and it contains a list of medical schools to which the composite evaluation should be sent. A considerable amount of biographical information is included on the premedical committee information sheet.

Once the premedical committee information sheet is completed and at least three letters of evaluation are on file, preparation of the composite evaluation

will begin. The composite evaluation is completed by extracting all information from the letters of evaluation and transferring it to the composite evaluation form using a key code to identify the instructor completing the individual evaluation. Narrative comments, which comprise an extremely important part of the evaluation, are likewise transferred verbatim to the evaluation under a heading which identifies the instructor and his/her relationship to the student. Members of the premedical committee who know the student well are invited to make comments, then some member of the committee, usually the chairman, will prepare the summary narrative. The summary narrative will draw on the biographical information from the premedical information sheet as well as any personal knowledge of the applicant. The summary narrative attempts to comment on the relative strengths and weaknesses of the student as compared to all other students from the University of Georgia.

Students may check to see whether or not letters of evaluation have been received by the premedical office by calling 542-1414 between 9:00 and 12:00 daily. Students who will not be enrolled in summer school between their junior and senior years should complete the premedical committee information sheet and insure that all their letters of evaluation are received before leaving the university for the summer. Applicants who will be in school during the summer quarter may complete their files during the summer, but students waiting until the beginning of fall quarter to complete their files will find that their evaluations will be completed much later than is typical. This may result in a later interview and possibly later acceptance than would otherwise be the case. Therefore, it is to the advantage of most students to complete their applications and the information necessary for preparation of the evaluation relatively early.

Many medical schools will have completed initial selection of their class by mid-April, but at the Medical College of Georgia the class will typically be 80 to 85% complete. For those applicants to MCG who have received neither an admission nor a rejection at this time, a supplementary evaluation may be made at the discretion of the Chairman of the Premedical Committee. A supplementary evaluation will typically be made only if the level of performance of an applicant changes significantly, or if additional information is available which is thought to have a bearing on the student's chances for admission. At least two additional quarters of work are usually available for evaluation at this time and if it is deemed appropriate, such an evaluation will be made. It should be emphasized that this supplemental evaluation will be made only to Medical College of Georgia and not to other schools where an application may still be pending.

4. The Interview. Personal interviews at practically all medical schools are granted only by invitation of the admissions committee. An applicant invited for an interview has passed the preliminary screening and is now being carefully considered for admission. Several thousand applicants will often have been narrowed to a few hundred when invitations are issued for an interview. The impressions made in a personal interview will be extremely important, particularly for those students with grades and MCAT scores that are marginally competitive. Many feel that it's impossible to prepare for an interview, but learning what to expect is a method of preparation.

Different medical schools have adopted different formats for conducting an interview. Two widely differing approaches are illustrated by the two in-state medical schools. At the Medical College of Georgia, the interview is rather unstructured, consisting of approximately 30-minute visits with one member of the medical admissions committee (who may be a student) plus a second interview with an associate member of the committee (a faculty volunteer who will not have a vote on the committee). At Emory University, the interview is much more structured, consisting of a group interview, usually with three applicants and six interviewers. The six interviewers will typically be made up of two medical students, two associate members of the admissions committee, and two voting members of the admissions committee.

Applicants should be prepared to answer some rather personal questions often having to do with such intimate subjects as the state of emotional health, plans to finance a medical education, sexual attitudes and even experiences. Most experienced interviewers try not to place unnecessary stress on an applicant during the interview, but on rare occasions the interviewer will purposely ask questions or exhibit attitudes designed to stress a student. That is, some few use the "encounter session" format. A mature student will not become unduly flustered or antagonistic if they are subjected to a stressful situation, but will maintain their poise and continue to answer questions as candidly as possible. Students should be aware that they may very well obtain a strong recommendation from a person who may act quite hostile whereas they may have a poor evaluation from the "friendly old gentleman" with whom they had such a pleasant visit.

Listed below are some of the things a person might do in preparation for the interview.

- a) Review your record. Be prepared to answer questions regarding your grade point average, science average, MCAT scores, grades on specific courses and other medical schools to which you've applied. Do not be reluctant to talk about other medical schools. The interviewer will probably consider an applicant who has applied to only one medical school naive.
- b) Know who submitted your letters of evaluation and be able to answer simple questions regarding their field, where they were trained, etc.
- c) Be prepared to discuss what you will do if you are not admitted. Most interviewers will ask this question. Other favorite questions have to do with medical ethics (including such profound philosophical questions as your attitudes on abortion, euthanasia, etc.), national health insurance, malpractice suits and other topics of current interest.
- d) Be somewhat familiar with the medical school before the interview. You should have some idea of the particular strengths of the school such as special programs in teaching, opportunities for research or other innovative programs for their students. This information

may be gained in a short conversation with a friend who is currently enrolled, or it may be obtained from the MSAR plus the catalog. The current catalog from about 85 of the 117 U.S. Medical schools is available in the Science Library (reference section) and in the Pre-medical Advising Office (room 208, New College). The interview also offers an opportunity for the applicant to ask questions (in most cases) and obtain additional information about programs or projects in which you may have a special interest.

A written summary of the interview will usually be made and this report will become a part of the applicant's dossier. Interviews typically begin in October and end in March.

Some medical schools will invite an applicant to be interviewed by a regional representative if the school is a long distance from both the applicant's undergraduate school and home. The regional representative is usually an experienced physician who is a graduate of the medical school and he/she will typically have had considerable experience in interviewing, often as a former member of the admissions committee. The interview will typically be held in the doctor's office. The purpose of this type interview is merely to save the applicant the expense of traveling a great distance to interview at the medical school. The obvious disadvantage is that the applicant will not see the facilities of the medical school, and the interview is usually with only one person.

5. Extracurricular Activities and Work Experience. There is a common myth that premedical students never participate in extracurricular activities and never work at an outside job, but instead sit with their nose in a book eighteen hours per day. This is of course not true, for premedical students participate in as many extracurricular activities as students in any other curriculum, and a number hold down parttime jobs to assist in meeting expenses. A great many successful premedical students join social fraternities and sororities, take an active role in various service and religious organizations, play varsity or intramural sports, participate in debating societies, theatrical groups, glee clubs, the band, and do all the other things that a typical student does. This includes leading an active social life. Successful premedical students, however, know how to order their priorities. They do the work first, then play later.

Involvement in extracurricular activities is usually viewed very favorably by an admissions committee, for if a student can maintain a competitive grade point average in a rigorous curriculum and still have the time and energy to actively participate in extracurricular activities, their energy and their aptitude must be rather high. There is no particular benefit to being a "joiner" who never participates or becomes involved, but a student who has been very active, particularly someone who has held office in various organizations, or who otherwise presents evidence of leadership would be considered a strong candidate for medical school. Admissions committees look for people who are winners since winning becomes a habit which will usually continue on through life. It must be emphasized, however, that no amount of involvement in extracurricular activities can substitute for a good academic record.

Work experience in a medical treatment facility will be viewed favorably by the admissions committee. This is obviously not a prerequisite for admission, since only about half of the students now admitted to medical school have any work experience, paid or as volunteers, in a medical treatment facility before matriculating in medical school. The primary value of working in a hospital, doctor's office, or public health facility, is to help decide whether or not to pursue a career in medicine. A person who knows very little about the practice of medicine or has unrealistic expectations about a medical career, will be viewed with considerable apprehension by an admissions committee.

Some students take training (such as the Emergency Medical Technicians course) which allows them to obtain employment in an emergency room, with an ambulance service, or in some other area of medicine as a regular or part-time employee. The experience gained may be of considerable value if the grades remain competitive. As a general rule the premedical student is urged not to seek a parttime job during the first academic year but to wait until a strong academic record has been established. It is often better to work summers or holidays, or if the student is largely self-supporting, they may wish to work for a while, save their money, then go to school full-time for a while.

Obviously not everyone will be able to find a job which will give the premedical student a worthwhile experience in medicine and help financially as well. Volunteer work is often available around hospitals, particularly as an assistant in the emergency room, etc. Such a program is cosponsored by the American Red Cross and AED at St. Mary's Hospital. Details are available in the Premedical Advising Office or the Red Cross office. Students should be aware that recent changes in the law regarding privacy plus recent precedents established in malpractice suits place severe limitations on what a student can do. A short training period is an absolute requirement before a student may begin work in an emergency room as a volunteer.

Paying jobs not related to medicine may give the applicant experience which will be very beneficial when applying to medical school. Any job which will help a person develop better human relations skills, teach them to assume responsibility, etc., may be of value and should be listed in the appropriate place on an application.

B. The Application:

Consider for a moment the problem facing the admissions committee of a major medical school that recruits almost exclusively from the national pool of applicants. There may be several thousand applications for perhaps 100 or 150 positions in the entering class, and they will be able to interview only a few hundred of these applicants. If they choose to interview only those whose grades and MCAT scores both rank in the upper 5 percent or so, there is an excellent chance that most of the students accepted will have as their first choice some other medical school, and with such outstanding credentials there is a strong likelihood that they will be accepted at several schools. How should they balance grades and scores with other more subjectively evaluated qualities such as personality, motivation, leadership ability, etc.? It is not a simple problem, and the committees have different methods of selecting those who will be interviewed. The student must keep in mind that his first, and in many cases his only, contact with the medical admissions committee will be through the application. Since the application will form the first impression on the committee, it is essential that it be carefully and thoughtfully prepared. An application containing smudges, erasures and strikeovers will be poorly legible, particularly after it has been photocopied. A very negative impression will also be created by misspelled words, poor grammar, or a poorly organized personal comments section. Hence care should be exercised in both form and content. It is usually best to have a professional type the final copy of an application.

1. Where to Apply. It is often stated that there are no bad medical schools. The accrediting agency (the Liaison Committee on Medical Education composed of representatives of both the AAMC and the AMA) insures that every medical school adheres to very high standards and National Board Exams, etc., help insure uniformity in the information covered. There are of course strengths and weaknesses in individual medical schools and differences in the difficulty in obtaining admission to different medical schools.

For most medical schools, the chances for admission are determined in large part by the applicant's state of legal residence. This is true of both private and public schools. In all cases, state supported public medical schools give preferential consideration to residents of their state. There is usually an upper limit imposed by legislation or administrative edict on the number of non-resident students accepted in a class in a state school. This is commonly 10 percent (at MCG it's only 5 percent), but in some public schools (including Tennessee) no non-resident students are accepted. In many private medical schools, preferential consideration is given to residents of the state for at least a portion of the class. Emory University accepts Georgia residents to fill half its class and Bowman Gray accepts half of its entering class from North Carolina. Baylor gives preferential consideration to Texans and Miami enrolls primarily residents of Florida. Many other examples could be cited, but complete information is available in the latest MSAR.

A number of private medical schools recruit exclusively from the national pool of applicants. This includes many "prestige" schools such as Harvard, Duke, Stanford, Johns Hopkins and Yale. As might be expected, the credentials

of students accepted at these prestige schools are outstanding. All things considered, the chances for acceptance are lower for a typical applicant at a school that recruits exclusively from the national pool than at a medical school which gives preferential consideration to students from their home state. This certainly does not mean that all the best students go to the prestige schools. Many factors determine where a student will matriculate, particularly cost, and the qualifications of many classes in public medical schools may be as high, or higher, than in private schools.

When deciding where to apply, a student should obtain the latest copy of "Medical School Admissions Requirements" and read the summary section on any school in which they have a particular interest, taking particular care to read the portion on selection factors and state of residence breakdown on their latest class. If the student meets requirements and appears to have a reasonable chance of acceptance, he/she should then further investigate the school by reading the latest catalog or bulletin, which is available in the reference section of the Science Library or in the Premedical Advising Office. An application to an out-of-state medical school should be made only if the applicant has a particular interest in some program at the school or some personal or professional preference for the school or the region. The reason a student applies to a school will be of more than passing interest to the admissions committee. If it appears to be a "shotgun" application, made only in a desperate effort to be admitted anywhere with little knowledge of or interest in the school, chances for a favorable decision are very poor.

No matter how good a record the student has nor how much he has always dreamed of graduating from some particular prestige medical school, the student who fails to apply to those schools where he will enjoy preferential consideration by reason of state of legal residence is being naive and perhaps foolhardy. Competition in the national pool is particularly intense, and in those top rated or "prestige" medical schools listed above, high grades and MCAT scores alone are often not sufficient to obtain an interview. They are looking for the "superstar" who shows evidence of unusual promise as a physician. Unless this can be documented, it is usually a waste of time and money to apply to those top-rated medical schools. Occasionally a student is admitted to an out-of-state school after being rejected by his/her home state schools, but this is rather rare for residents of Georgia.

2. AMCAS. The American Medical College Application Service (AMCAS) is a centralized processing service for applicants to participating U.S. medical schools. All applicants to AMCAS-participating schools must submit their application materials through AMCAS, and 89 of the 117 U.S. medical schools will use the AMCAS service for selection of their 1978 entering class. AMCAS applications may be obtained from the Premedical Advising Office, or by writing AMCAS, Association of American Medical Colleges, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036. Applications for schools not participating in AMCAS may be obtained by writing directly to the admissions office of the medical school. Addresses may be found in the MSAR.

AMCAS, which is administered by the Association of American Medical Colleges (AAMC), provides detailed admissions information to medical schools and undergraduate premedical advisors in addition to their major role of

processing applications. The advantage to the applicant of applying through AMCAS is that initially only one set of application materials and official transcripts need be submitted, regardless of the number of AMCAS schools to which a student applies. Official transcripts should be sent approximately two weeks before the AMCAS application is mailed (with a transcript matching form), and upon receipt of the application, AMCAS will perform an item-by-item check comparing all courses in the academic record section of the application against the official transcript. Once all courses and grades are verified, the AMCAS application is photocopied and sent to all schools designated on the AMCAS form. It should be noted that if you decide to apply to additional schools before the schools' application deadline, you need only submit an additional designation form with the appropriate fees, and all AMCAS information will be sent to the designated schools.

Many AMCAS schools conduct a preliminary evaluation of the application received from AMCAS, and if it appears that the applicant will not be competitive for admission to their particular medical school, a preliminary rejection is sent at this time. If the applicant appears to be competitive, the medical school will acknowledge receipt of the application, usually within two weeks. At this time most medical schools require the filing of secondary application information and an additional application fee. There is usually a deadline on the filing of the secondary application, typically two or three weeks, and this deadline should be carefully observed.

Some comments should be made about page 2 of the AMCAS application, the section entitled "Personal Comments." Many students apparently do not understand the purpose of this section, and it is sometimes left blank. This generally creates a very negative impression on the admissions committee, for the personal comments section is there to provide a space in which a student may make a statement or bring information to the attention of the committee which would otherwise not be possible to present. This is the place where a person's achievements may be listed, where plans for the future may be discussed, and where explanations may be given for performance which the applicant feels was not up to his/her capability. Extenuating and mitigating circumstances may be outlined, but the personal comments section should not become an apology for a poor academic record. Neither should it become a fantasy in which a person plays out inflated dreams, but realistic aspirations regarding a person's career may be spelled out.

The committees will be much more interested in achievements and accomplishments than in future plans which may or may not materialize. The talented, articulate student will find a way to list accomplishments in a manner which is not boastful and discuss plans which sound reasonable and sincere. A well-prepared personal comments section will leave the reader with a sense of having discovered quite a lot about the applicant that he did not know before. Many admissions committees do not consider a student who has nothing to put in the personal comments section. It is recommended that the student carefully compose the personal comments, let them sit for

a week or two, then come back and reread what was written. If it does not then say what was intended, it should be rewritten. The final version should be carefully checked for spelling, punctuation, and grammatical errors. It should then be neatly typed, leaving sufficient margins so that the material will photocopy well.

3. Timetable. Many students wait until too late to apply. As may be seen from the discussion above, it takes several weeks from the time an application is mailed to AMCAS until a complete secondary application is on file at the medical school admissions office. If documents are lost in the mail, misfiled, or any of the other dozens of things occur that can delay completion of an application, this time may stretch into months. The amount of time required to complete a carefully prepared application is usually underestimated. If a student waits until the approach of a deadline to start to complete his/her application, it will decrease the chances for admission. This is due both to the fact that a hurriedly prepared application may not present them in the best possible light, and to the fact that a late application may arrive at the medical admissions office with so many other applications that it will not be possible to give it the careful scrutiny it may have received had it arrived earlier. Many students delay taking the MCAT until fall, or retake the MCAT in the fall with the expectation of applying to additional schools in case their scores improve. Score reports for the fall administration of the test will normally be received about November 1. Soon after this time an avalanche of applications hit many medical schools. This prevents the committee from considering many qualified students as carefully as if their application had arrived earlier.

It is suggested that students who will not be enrolled during the summer quarter begin preparation of their AMCAS application soon after spring quarter grades are received. Official transcripts may be requested at the Registrar soon after spring grades are posted. The application can then be mailed during midsummer, allowing secondary applications to be completed well before return to school in the fall. Students enrolled in the summer quarter should typically have their application essentially complete before summer quarter grades are completed. As soon as these are reported, the application should be completed and mailed. This should allow the serious student to obtain an early interview and hopefully an early acceptance.

4. Supporting Documents. It is the responsibility of the applicant to insure that a complete dossier is available to the admissions committee at each school to which he applies. It is suggested that a separate folder be made for each medical school, and as soon as the secondary application is received from AMCAS schools, or the application itself from non-AMCAS schools, that a check sheet be set up. Complete information regarding needed supporting documents will be provided by the medical school, and these items should be checked off as they are sent. It may be wise to photocopy certain documents which could be replaced only with difficulty. Once a dossier is complete, most

medical schools will send an acknowledgement to the student. The kind of supporting documents required will vary somewhat from school to school, but in almost all cases evaluations (recommendations) are needed. These are typically sent by the evaluator directly to the medical school. For some schools a composite evaluation will suffice, and they actively discourage further letters of evaluation. In most schools, however, an applicant is either required or strongly urged to submit additional letters of evaluation from physicians, former employers, high school teachers or coaches, or most anyone else who has first-hand knowledge of a person's personality and character. An applicant is cautioned not to overwhelm a committee with an avalanche of letters. Two or three additional letters from professional people who know a student well will strengthen the application if they can give first-hand examples of the student's personality, general good character and industry. Fifteen or twenty such letters may be viewed with considerably less appreciation by the committee members who must read them.

Letters of recommendation from prominent politicians or other public figures who know a student only slightly are usually a waste of everyone's time, and in some cases can actually have a negative impact. This is not to say that letters should not be solicited from people who know you well just because they may be rather prominent, for if they can comment from first-hand knowledge, their evaluation may have high credibility. A few medical schools, including Tufts, utilize peer evaluations. They require a letter of evaluation from a fellow student. Good judgment must be used in selecting the individual to do this evaluation, as is the case of all supporting evaluations. Students should realize that the admissions committees require a balanced evaluation which will realistically set forth a person's strong and weak points if it is to be considered with high credibility.

Applicants should send grade reports to all medical schools at which their application is pending as they are received. Most schools require only a photocopy of the student's grade report. A final official copy of the transcript will be required after acceptance, but before matriculation.

Finally, most medical schools require a recent picture (passport size) to accompany the application. Pictures are also needed for the MCAT registration forms and for the Premedical Committee Information Sheet. In the interest of economy and convenience, it is suggested that a picture be made during the winter quarter of the junior year and that a good supply be printed in passport size so that they will be available without a long wait or the expense of having a rush order.

V. FINANCING A MEDICAL EDUCATION

The cost of a medical education has increased rather dramatically in the past few years, making it increasingly important that premedical students carefully consider how they will finance their medical education. This increase is due both to rapidly rising tuition costs in many medical schools and to the general inflation which has pushed up living costs across the country. Married students with children find living costs to be especially difficult to finance when they have no income. The last comprehensive figures for total medical education costs (tuition and fees, plus living expenses) were compiled in 1975. At that time, average total annual expenses reported were \$7085, ranging from \$5792 for single students to \$10,798 for married students with two or more children. Expenses for students enrolled in private schools averaged about \$2000 more than in public schools. This is due almost entirely to differences in tuition costs, since other costs varied less than \$75. Since 1975 there have been several large tuition increases so that by fall 1977 tuition costs alone were more than \$5000 per year at a number of medical schools and more than \$10,000 per year at a few schools.

A rapid expansion of medical school enrollment began in the late 1960's. Concurrent with this expansion a large number of scholarship programs, low interest guaranteed loan programs and other financial aid programs earmarked specifically for students in the health sciences were initiated. Many of these federal programs have recently been phased out or drastically reduced. Cutbacks in these programs have caused widespread concern among medical educators.

Among the remaining government scholarships available to medical students, most require "payback" in the form of service, usually one year's service for one year's support while in medical school. The federal programs include the Armed Forces Health Professions Scholarships which are available in the Army, Air Force, or Navy; Public Health Service Scholarships and National Health Service Corps Scholarships. There are also service scholarships available through the State Medical Education Board of Georgia, which requires practice in an underserved area. Competition for all these scholarships has become extremely keen.

Many private medical schools have scholarships and grants from their own endowments or from grants made to the school by alumni, friends, and industry which are available for talented students. These will largely overcome the differences in tuition costs between the private and public medical schools, and should be carefully investigated by the student with strong academic credentials before he/she arbitrarily decides to attend a state school because of reduced cost.

A student who has qualified for financial aid as an undergraduate will usually be able to qualify for financial aid as a medical student. At the present time most financial aid is in some combination of scholarships and loans. If a student is unwilling or unable to obtain a scholarship with a "service" payback provision, it may be necessary to finance most of the medical education costs through family assistance and loans.

It has become increasingly popular for medical students to finance a major portion of their education costs through loans from family and friends on a regular, business-like arrangement. Loans may be obtained from family members at a rate of interest considerably lower than regular bank rates, but still returning a rate of interest comparable to a savings account. Notes may be prepared, each note bearing its own interest. Students entering medical school should realize that they are a good risk and they will be able to repay the loans in the future.

Recently most medical schools could truthfully state that any student with the necessary academic and personal qualifications for admission would not be prevented from graduating because of financial need. At the present time the situation regarding financial aid is so unsettled that it's not clear whether or not this statement will continue to be made.

Because of frequent changes in the rules of eligibility and in the availability of funds it is not possible for most premedical advisors to be well enough informed about financial aid to adequately advise students. Questions on this subject should therefore be referred to the Financial Aid Officer of the medical school to which a student applies. Such questions should not necessarily be deferred until after the student has been granted admission. In many cases the deadlines for the application for loans, fellowships or grants may be quite early (usually about May 1), before the entire class has been selected. Financial Aid Officers in the medical schools will have complete and up-to-date information on available funds, both scholarships and loans. Loan funds for upper division medical students are still fairly easily obtained. Funds for entering freshmen have recently become limited, so it is necessary to plan for the payment of cost well in advance. Many available loans are at regular bank rates. Students financing a major portion of their medical school education through loans must be psychologically prepared to assume loans amounting to many thousands of dollars.

VI. IF YOU ARE NOT SELECTED

Most premedical advisors agree that one of the most difficult tasks connected with their job is counseling the rejected applicant. The unsuccessful applicant is usually depressed and often quite hostile to the advisor and to the system which has caused him to be rejected. Many rejected applicants are unable or unwilling to see themselves in true perspective, yet one of the first things a rejected applicant should do is to honestly and realistically assess their position and identify the reasons for the rejection. In the vast majority of cases this is simply a matter of statistics. Their grade point average and/or MCAT scores are typically well below the mean for the accepted student. There are three courses of action open to the rejected student. These are: reapplication (with improved credentials); matriculation at a foreign medical school; or choose some alternative career and give up plans for a career in medicine. Each of these is discussed below.

A. Reapplication:

Experience has shown that if the rejected applicant reapplies with essentially the same credentials, the chances for a favorable decision are slight. Each year for the past several years the credentials for the entering class have been higher than the preceding class.

The rejected applicant should arrange a conference with someone on the medical admissions committee at a school to which they have applied or alternatively, seek advice from their premedical advisor. The purpose of this meeting is to identify those areas in which their application appears to be deficient. Once the deficiencies are identified, the rejected student must then realistically assess the chances for significantly improving them. In some cases this may mean simply retaking the MCAT with improvement in the scores. In other cases the overall GPA may be quite competitive but grades on the required biology, chemistry, and physics may be low. This indicates a poor aptitude for science, which is a serious deficiency as viewed by most medical admissions committees. It must be recognized that if a student continues to take science courses and continues to turn in a mediocre performance, this will not correct the deficiency. In general, medical admissions committees are more impressed by high aptitude than by an adequate proficiency which has been painstakingly acquired over a period of years. For students with lower than average GPA the only way that this can be significantly improved is to take more courses. If the decision is made to take additional class work, the next choice is whether or not to enroll as an irregular undergraduate student after completion of the baccalaurate, or to apply to graduate school. Persons choosing this latter option should be aware of the fact that medical admissions committees are increasingly reluctant to accept a person who is enrolled in a graduate degree program before they have completed their degree. Many M.S. programs in the sciences require a full two years for completion. This means that a person choosing to enter a Master's degree program immediately after receiving the B.S. should consider reapplication the second year after the baccalaurate when the M.S. would normally be awarded before matriculation to medical school. Completion of the M.S.

degree in some basic medical science with a good to excellent record should considerably improve the chances of a candidate who was marginally competitive as an undergraduate. There are of course no guarantees that this strategy will be successful. Hence a person enrolling in graduate school should do so in a discipline which they would consider pursuing as an alternate career.

In the 1976 entering class nearly 26 percent of those applying had previously applied. Their acceptance rate was 29.2 percent, which is 2.3 percent better than in the 1975 entering class.

B. Foreign Medical Schools:

For a very few students, enrollment in a foreign medical school may be an acceptable alternative if they cannot gain admission to a U.S. medical school. A student seriously considering enrollment in a foreign medical school must be aware of some of the difficulties which they will face. Chapter 9 of MSAR contains a discussion of foreign medical schools as an alternative for U.S. citizens, plus an excellent reading list which students may consult to gain a realistic appraisal of what study in a foreign medical school is like as well as some of the difficulties encountered in attempting to practice in the U.S.

It is virtually impossible for American students to be admitted to medical schools in the United Kingdom or other English speaking countries, hence most are in a foreign culture and language. The majority of American students enrolled abroad are presently in Mexico, Italy and Spain. Italy has recently announced they will no longer accept foreign students, and there has been a severe cutback in Spain. Most of the Mexican medical schools which are open to U.S. citizens are proprietary (profit-making) and they return a handsome profit to the physicians who run the school on the \$5,000 per year tuition. By comparison the actual cost of educating a medical student in the U.S. in most medical schools is between \$12,000 and \$15,000 per year (the difference between tuition and cost being made up by tax funds, endowments etc.).

Medical school is a very taxing experience for most individuals even under the best of circumstances. But when lectures are given in a foreign language and a person is living in a foreign culture the difficulties are compounded. It should not, therefore, be surprising that a large number of the American students enrolled in foreign medical schools drop out before completion of the M.D. degree, often after having spent many thousands of dollars on their medical education. Many foreign medical schools have virtually open admissions policies, but as many as 80 percent of the class may be dropped at the end of the first year of study.

For those who can do the work and pass the courses there is no guarantee that they will ever be allowed to practice in the U.S. The present trends appear to be to further restrict the ability of graduates of foreign medical schools to practice in the U.S., and the opportunities for transfer back to a U.S. medical school are extremely small. It is estimated that between four and six thousand American students are enrolled in foreign

medical schools. In 1976, 243 of those students attending foreign medical schools were admitted to U.S. medical schools with advanced standing through the COTRANS program. This is by far the preferred route for a U.S. citizen enrolled in a foreign medical school. Another alternative is for a person to graduate from a foreign medical school and obtain license to practice in that country. This usually requires between 5 and 7 years. A person with an M.D. awarded by a foreign medical school may then take the Educational Commission for Foreign Medical Graduates (ECFMG) examination. If this examination is passed a person is eligible for approved internships and residencies in this country. Unfortunately only about one-fourth of the U.S. citizens who take this exam typically pass. Although graduates of foreign medical schools are allowed to take licensure examinations in most states, relatively few are licensed. A person may have the M.D. degree but still not be able to practice medicine in the U.S.

There is a third alternative. This is the "fifth pathway" in which a student may complete the academic courses in medical school in a foreign country, then return to the U.S. for one year of clinical training supervised by a U.S. medical school instead of fulfilling the social service requirements for the M.D. degree in the foreign country (this is utilized chiefly by students in Mexican schools). The student may complete an approved internship and may practice medicine in some states which do not require the M.D. degree. The AAMC has recommended that the fifth pathway programs be phased out.

From this abbreviated discussion it may be seen that enrollment in a foreign medical school is fraught with great difficulty and uncertainty. For a few very mature students who are highly disciplined and able to learn on their own, with little help or guidance, who have an excellent facility with foreign languages and who have the financial resources to support themselves for several years while paying large amounts for tuition and fees, foreign medical schools may be an acceptable alternative.

There are a number of placement agencies and clearing houses which claim to be able to help students obtain admission to foreign medical school, usually for fees of several hundred dollars. Much of the information and many of the services provided by these placement services or clearing houses is available without cost or at very nominal cost from AAMC, foreign consulates and a number of other agencies. Students should be particularly cautious about signing contracts for such services.

C. Career Alternatives:

For the rejected applicant with both grades and MCAT scores significantly below the mean for accepted students, the reality of the situation may dictate that the student choose some alternative career and give up plans for a career in medicine. Many students may wish to consider some other career in the health sciences, although some of the professional schools listed below may have a bias against unsuccessful premedical students if they feel that the applicant is attempting to use their profession as a stepping stone into medicine. For closely related careers a person may consider osteopathic medicine, dentistry, podiatry, veterinary medicine, optometry, or pharmacy. Many former premedical students complete

a Ph.D. in some discipline in the basic medical sciences, and enjoy a very satisfying career in teaching and research, often at a medical school. Others take graduate degrees in public health, clinical psychology, or one of the allied health sciences, such as medical technology or clinical chemistry. There are numerous career opportunities in these areas. Hospital administration should be considered by those students with good management skills and the ability to work well with people. It must be added that most of these professions are highly competitive and no assurance can be given that a student applying for graduate or professional school in these disciplines will be accepted. There are, however, many talented students with much to offer professionally who are not being accepted for admission to medical school.

Many rejected premedical students prefer to go into other professions which are completely unrelated to the health sciences. Unless a person can be reasonably assured of a satisfying and successful career in some area of the health sciences, it may be a mistake to remain in a job in which the opportunity for professional advancement is limited, just in order to stay in a medically related profession. Students leaving the field frequently find very satisfying careers in such diverse fields as banking, law, sales, military service, and dozens of other businesses and professions. Whatever alternative career a student chooses, it should be one that is intellectually stimulating and it should offer rewards commensurate with the talents of the student.

VII. MEDICAL SCHOOL POLICIES AND SPECIAL PROGRAMS

U.S. medical schools offer a number of innovative programs designed to assist students with special problems or particular needs. It is beyond the scope of these guidelines to discuss these programs in detail or to list the schools offering them. However, some introductory information on certain of these programs may be beneficial to the student who is totally uninformed about such programs but may have reason to use some of the services offered. A starting place for information regarding any of these programs is the latest edition of the Medical School Admission Requirements. Further information will be available from the medical school catalog. Some of the more popular programs and policies are outlined below.

A. Early Decision Plan:

The Early Decision Plan (EDP) permits an applicant to file a single application to a medical school offering this service well before the usual deadline (usually prior to August 1) and to receive a prompt decision by the school (usually by October 1). If the student is admitted under the early decision plan he/she is obligated to attend that school. Therefore a student would apply for early decision only at a school of his/her first choice. Neither the Medical College of Georgia nor Emory University offer an early decision plan, hence relatively few students at the University of Georgia make use of the EDP.

Only a small percentage of the class, usually 10 to 20 percent, is selected on the EDP. A person applying for admission under the EDP should therefore have credentials at least as good as the average for the previous year's entering class in order to be competitive. The EDP applicant must take the MCAT no later than the spring before applying in summer and arrangements must be made with the Premedical Advising Office to complete the composite evaluation in early summer in order to make the deadline. This means that all letters of evaluation and other supporting documents should be on file by the end of spring quarter.

If the student is rejected under the EDP, he/she is notified in sufficient time that the deadline for application to other medical schools may be made. It is possible for a rejected EDP student to apply to the same school at which he/she was rejected on the EDP plan and still be admitted during the period of regular selection.

B. Early Admission:

Most U.S. medical schools now require a minimum of three years of college work before admission. As late as the mid-1960's, a sizable portion of the entering class (one-third or more in many schools) had not received the baccalaureate degree before matriculation in medical school. With the increased competition for admission to medical school beginning in the late 1960's, the number of students accepted to matriculate before completion of the baccalaureate has steadily declined. At the present time more than 95 percent of the students enrolled in the typical medical school will have at least a bachelor's degree before matriculation in medical school, and in many medical schools a student will not be considered without a degree.

Premedical students at the University of Georgia fit the national trend. Only two students received early admission in the 1975 entering class (from a total of 76 students admitted) and three received early admission in the 1976 entering class (from a total of 74). Present trends indicate that it will become increasingly difficult even for the truly exceptional student to be admitted to medical school before completion of the baccalaureate.

Students at the University of Georgia who are admitted to the Medical College of Georgia before completion of the baccalaureate degree may receive their B.S. with a major in premedicine if they have completed at least 135 quarter hours at the University of Georgia and completed the general requirements for the B.S. degree. These requirements are shown in Appendix III of these guidelines. It should be noted that this joint degree program functions only with the Medical College of Georgia, and students matriculating in other schools of medicine will not be able to receive their B.S. degree without completion of the regular course requirements. Courses completed in medical school or other professional schools cannot be transferred for credit toward the baccalaureate degree.

There may be some question as to why a person with the M.D. degree would wish to obtain a B.S. Aside from the personal satisfaction of obtaining the B.S. degree, there are also professional reasons. Some graduate schools, for example in public health, will not admit a student even with an earned doctorate unless he has completed requirements for a baccalaureate degree.

C. Uniform Notification Dates:

The Association of American Medical Colleges (AAMC) has suggested to member medical schools that they adopt a uniform series of dates for notification of accepted applicants. These dates are December 15, January 15, February 15, and March 15. They have also requested that medical schools not notify accepted applicants prior to November 15. Many medical schools have adopted these uniform notification dates and very few notify prior to November 15. However, the trends appear to be against uniform notification and toward a rolling admissions procedure in which students are notified relatively soon after their acceptance. After March 15, all are on rolling admissions, including those schools complying with the uniform notification dates.

If you receive an acceptance from the medical school which is your first choice, you should promptly notify the other medical schools at which your application is pending and withdraw the application. If you are fortunate enough to receive a second letter of acceptance, a decision should be made within two weeks, and one of the two schools should be notified that you intend to decline its acceptance. You should hold a place in only one medical school at any point in time unless you have applied for financial aid and the disposition of this is still pending. It is considered proper to hold places in more than one school while waiting to hear what financial assistance can be offered.

D. Joint Degree Programs:

A number of medical schools offer students the opportunity to earn the M.D. degree plus some other professional degree in a joint program. The M.D./Ph.D. combined degree program is the one most widely available in U.S. medical schools. In 1976, 87 schools provided an opportunity for students to earn both the M.D. degree and the Ph.D. degree in some medically related area. The joint M.D./Ph.D. degree is usually taken by a person who aspires to a career in academic medicine and will typically require seven years for completion. A student entering such a program will take two years of preclinical training with his/her entering class, then leave the class and take approximately three years for completion of the Ph.D. didactic work and research. After completion of the preliminary examination and most of the research for the Ph.D. the student then completes the necessary clinical rotations in order to satisfy requirements for the M.D. degree (usually in two years).

The National Institutes of Health sponsor a Medical Scientist Training Program which supports students in M.D./Ph.D. programs at 22 different medical schools. Only students showing unusual promise for careers in academic medicine are usually competitive for the Medical Scientist Training Program. This program pays all tuition and fees, plus a stipend which will provide for basic living costs. There is a "payback" provision in which a student is required to spend one year of teaching and/or research for each year of support.

It is also possible to earn a combined M.D./J.D. degree at a few medical schools. In 1977 five universities offered students the opportunity to combine the study of law and medicine.

There are a few special programs available for persons holding the Ph.D. degree which will allow them to enter an accelerated program in which the M.D. may be earned in as little as two years' time. Such programs should not be confused with the joint M.D./Ph.D. program, but are available only for persons who had previously earned the Ph.D. degree in certain areas of the natural sciences. The University of Miami School of Medicine has offered such a program since 1971.

E. Minorities:

Since the late 1960's U.S. medical schools have greatly increased their efforts toward recruitment of minority students. Many of the programs which have been initiated are discussed in "Medical School Admissions Requirements" chapter 7, entitled "Information for Minority Group Students." More complete information is available in the AAMC publication "Minority Student Opportunities in U.S. Medical Schools (1978-79)." This publication is available in the Premedical Advising Office. The purpose of the programs that have been initiated is to increase the number of students entering medical school from various racial/ethnic and socioeconomic groups which are presently underrepresented in the medical profession. This includes the traditional ethnic minorities, including black Americans, American Indians, Mexican Americans, and mainland Puerto Ricans. But also included in the category of minorities by some admissions committees are females, students from poor or disadvantaged homes, and students from rural areas. If an applicant

belongs to one or more of these categories he/she may receive some preferential consideration in the admissions process.

Some of the programs which have been initiated for minority students include special summer programs designed to strengthen the academic background in the sciences as well as career information and introduction to practical health care for students at the undergraduate college level. Certain other summer programs are designed to strengthen the background of minority students accepted to enter medical school. The Medical College of Georgia offers a summer program for minority students at the undergraduate level. Information on this program is available from Mr. James E. Carter III, Office of Minority Affairs, Medical College of Georgia, Augusta, Georgia 30902.

Considerable success in the recruitment of traditional minority students was encountered in the early 1970's, as evidenced by the fact that the proportion of traditional minorities rose in the first year classes from 4.8 percent in the 1969 entering class to 10.0 percent in the 1974 entering class. However, there has been a recent decline in the number of traditional minority students in the last two entering classes. Many knowledgeable observers have attributed this to the bleak outlook for financial aid to medical students at a time of rapidly rising tuition costs and inflation, which has greatly increased living costs.

Minority students contemplating careers in medicine may obtain additional information on financial assistance and other programs by writing the two organizations listed below:

Student National Medical Association, Inc.
1875 Connecticut Avenue, NW
Suite 1020
Washington, D.C. 20009

Minority Student Information Clearinghouse
AAMC
1 DuPont Circle, NW
Suite 200
Washington, D.C. 20036

A source of financial aid which is available only to traditional minority students is National Medical Fellowships, 3935 Elm Street, Downers Grove, Illinois 60515. Needy minority students should write to NMF and request application forms as soon as they are accepted to enter medical school.

Considerably better results have been achieved in the recruitment of women students than in recruitment of traditional minorities. In the 1969 entering class only 9.2 percent were female, whereas women comprised 24.7 percent of the entering class in 1976. Reliable estimates indicate that in the early 1980's more than a third of the entering class will be female.

F. Three-year Programs:

Several medical schools offer accelerated programs which allow a student to complete requirements for the M.D. degree in three calendar years. This is accomplished by scheduling classes and clinics through the summers in an almost uninterrupted instructional program during the three-year period. Information on those medical schools offering such an option is found in chapter 11 of the MSAR under individual school descriptions. It should be noted that there has been a recent decrease in the number of schools offering a three-year program. In 1973, 16 schools had a three-year program; in 1976 the number was only 9. It is anticipated that there will be further decreases in the number of schools offering such programs. These accelerated programs have been found to make intense demands on both the students and faculty, and many medical educators have questioned whether the saving of one year in time is worth the added stress.

G. Irregularities:

Each year medical schools and/or the Association of American Medical Colleges (AAMC) discover a number of applications which have been supported by fraudulent documents. The AAMC investigates all suspected cases of altered transcripts, bogus recommendations, or cases in which a person may not have taken his/her own MCAT. A number of safeguards have been instituted to protect the integrity of the system, and when a case of fraud is discovered, it is euphemistically dubbed an "irregularity." Honest mistakes in transcribing grades or other errors caused by carelessness would not be considered an irregularity, but if an irregularity is discovered, in essence the individual involved in the fraud is blacklisted. The quote often heard is, "Once an irregularity, always an irregularity," and a student involved in such fraudulent practices will probably never be admitted to a medical school.

VIII. SPECIAL PROGRAMS AND POLICIES AT THE UNIVERSITY OF GEORGIA

Several programs and organizations which are not a part of the Premedical Advising Office may be of considerable aid to students in premedicine. The Honors Program, Advanced Placement and AED are discussed in turn below. Each of these may be of considerable value to a student at the University of Georgia who plans to enter medical school. This section ends with comments on some practices which, although distasteful, need to be brought into the open and candidly discussed.

A. The Honors Program:

An Honors Program is available at the University of Georgia which offers a number of different services to the academically superior student. Enrollment is by invitation, which is extended to entering freshmen with high SAT scores and a strong high school record. Students not initially invited to join may do so after earning a GPA of 3.5 in courses at the University of Georgia. Information on enrolling is available in the Honors Office which is located on the second floor of the Academic Building. Students enrolled in the Honors Program may register for honors courses which usually have smaller enrollment with enriched course content and they are generally taught by the more experienced faculty. Honors students typically take one honors course per quarter for the first two years. If a total of 9 honors courses are taken in the proper areas, a student may graduate "with general honors." If a student chooses to take independent research, the results may be used to prepare an honors thesis which allows the student to graduate "with honors in the department" if they qualify for graduation with general honors.

Many students preparing for medical school are in the Honors Program and students invited to join are generally encouraged to do so. It must be emphasized that this is a personal decision and participation in the Honors Program may not necessarily be best for all premedical students. Honors Program students are eligible for all resources available through the Premedical Advising Office and are urged to take advantage of these services. This includes academic advising, general advising regarding preparation for medical school (i.e., MCAT's, AMCAS, deadlines, etc.) and preparation of the composite Premedical Committee evaluation. Honors advisors serve on the premedical committee and are available to assist in the preparation of the composite evaluation for honors students. A person should never feel that he/she is either in the Honors Program or in the Premedical Program. It is usually in the best interests of the student to take advantage of the advice and assistance available in both. In the unlikely event that the advice given differs substantially, the student should carefully evaluate all available information then make the decision which appears to best serve his/her own needs.

B. Advanced Placement and CLEP Credit:

Advanced placement at the University of Georgia is administered by the Honors Program. Advanced placement credit and/or exemption may be earned either by taking locally administered departmental tests (usually during summer orientation) or by participating in the Advanced Placement Program of the College Entrance Examination Board (CEEB). In the CEEB program college credit may be earned for advanced courses taken during high school if the student scores sufficiently well on the CEEB advanced placement test. Informa-

tion regarding interpretation of scores and credit allowed may be obtained during advanced placement orientation or through the Honors Program office.

It is generally recommended that students having at least two years of a foreign language in high school take the CEEB achievement test in the foreign language. Many students receive advanced placement based on these scores, as discussed in section III, page 8. The student must exercise good judgement in determining whether or not to accept this advanced placement if exemption is earned only without credit. It is foolish for a student to begin in the third quarter of a modern foreign language that was taken in high school if his mastery of the language is so poor that he cannot compete effectively with students who have just completed the second quarter. Whenever a premedical student registers for a course, it should be with the reasonable expectation of making an A. It is equally foolish for a student to register for a course, for example the first quarter of a language, if he/she has previously completely mastered the material. The best source of information and advice will usually be a fellow student who has already taken the course.

The subjects in which many premedical students obtain advanced placement are in English, history, mathematics and chemistry. Many well prepared students begin mathematics with calculus, exempting algebra and trigonometry. Approximately 20% of the students who are accepted to medical school from the Franklin College have had CHM 127, 128 and 129 (advanced general chemistry) rather than the 121 series (general chemistry). The student with a good background and high aptitude in chemistry is urged to elect this more rigorous sequence if it can be taken. PCS 137, 138 and 239 are often taken by students in premedicine, but again fewer than a quarter of the successful medical school applicants take this calculus-based physics course. Students with a good background in physics and a high aptitude for mathematics (MAT 254 is a prerequisite) are encouraged to take this course. It looks good on a student's record to see that the more challenging sequences have been taken, but not if C's and D's are the grades earned in these more rigorous courses. Students admitted to the highly competitive, prestige medical schools will usually have the more rigorous science sequences, such as CHM 127, 128, 129 and PCS 137, 138, 239.

The College Level Examination Program (CLEP) was designed primarily for nontraditional students, such as those who have been out of school for several years. High school counselors often advise their better students to take the CLEP and try to exempt certain college courses with credit. This is frequently bad advice for premedical students. A student may be able to score sufficiently well on a standardized test that he/she can exempt a course, but if the course is needed as a prerequisite for some other college level course or is required for admission to medical school, it may be a mistake to take the CLEP credit. A person exempting a course may not have a sufficient background to take more advanced courses in the subject or to score well in that subject on the MCAT. Most medical schools will accept CLEP credit for required courses only if the credit is "validated" by taking a higher level course in the subject. For example, a student with CLEP credit for BIO 101 and 102 may use such credit if he/she has taken ZOO 225 (Invertebrate Zoology) and ZOO 226 (Vertebrate Zoology). Without additional (higher level) courses in the subject, most medical schools will not accept CLEP credit for the courses required before medical school matriculation.

C. Alpha Epsilon Delta:

Alpha Epsilon Delta, the national premedical honor society, has a large and active chapter at the University of Georgia. AED serves both to recognize those students who maintain a strong academic record in the premedical or pre dental program, and as a service organization to provide a number of informative programs and services to students in the prehealth sciences.

In order to be eligible for membership in AED, a student must have completed 65 hours of college work with at least 25 hours in residence at the University of Georgia and the GPA must be 3.30 or more. There has been some recent discussion in favor of raising the required GPA. Bids are mailed to those students with the required academic credentials who can be identified as premedical or pre dental students early in the spring quarter. A student will typically be initiated in the spring quarter of his/her sophomore year or in the spring of the junior year in the case of transfer students who enroll with 90 hours. Bids are extended exclusively on the basis of grades, and students with the required credentials who have not received a bid at the end of the second week of spring quarter should contact an AED officer or the Premedical Advising Office for information on how to receive a bid.

Some of the services provided by AED to students in the prehealth sciences include the sponsoring of a number of guest speakers who will give informative programs on the medical or dental professions. Particular emphasis in program planning is placed on admissions, and a number of admissions chairmen and committee members from medical and dental schools from the southeast will visit the campus each year, sponsored by AED. AED also plans and underwrites the cost of field trips to the instate medical and dental schools, and plans have been made to visit schools in adjacent states. Any student, whether or not a member of AED, is invited to participate in any of these programs.

AED has also purchased three bulletin boards, which are located in Chemistry, Biological Sciences and the Graduate Studies Building, for dissemination of information of interest to students in the prehealth sciences. The AED bulletin board in the lobby of the Graduate Studies Building (just to the left of the entrance to the science library) has been used for some time as a means of communicating with students in the prehealth sciences. This is the only way in which the Premedical Advising Office can maintain contact with students. Notices for all meetings, deadlines, field trips, etc., are posted on the bulletin board at least a week before the event. Students are requested to check the bulletin board at least weekly so as not to miss an important event.

D. Unsavory Practices:

The intense competition for admission to medical school has stimulated some rather unsavory behavior on the part of a small minority of the premedical students at a number of different schools. This includes the sabotage of other students' experiments in laboratories, removal or destruction of assigned reference material and cheating. In those schools where such practices have become widespread, premedical students find themselves stigmatized and ostracized by their fellow students. Fortunately, these practices seem to be very rare among students at the University of Georgia, but there have been recent disturbing reports that there is an increase in the

amount of cheating. It is the premedical student who has the most to lose if there should be an increase in such behavior here. All premedical students should therefore be aware of the implications and ready to assist in stopping these practices.

If you observe a student cheating, he/she should be reported to the instructor. If possible, enlist the aid of another student who can verify any accusations and both of you should be prepared to testify before the Student Judiciary regarding the case. If it is suggested that this information also be reported to the Chairman of the Premedical Committee if the student is known to be in premedicine or predentistry. Medicine has a very strong code of ethics. Any student who would resort to such unsavory practices as cheating or deliberate sabotage of a fellow student's laboratory experiment would be guilty of a flagrant lack of ethics and would not be recommended for admission to medical school. Unsubstantiated charges cannot, of course, be forwarded to a medical admission committee, but if a student has been convicted by the Student Judiciary of any of the unsavory practices listed above, this would almost certainly insure that he/she would not be admitted. The Premedical Committee routinely checks with the Student Judiciary to determine whether or not any disciplinary action has been taken against a student which would indicate unsuitability for a career in medicine.

On a more positive note, it should again be emphasized that these unsavory practices are not now a problem at the University of Georgia. Our students work together, study together and support each other rather than try and tear each other down. This is a very significant factor in the recent large increases we have experienced in the number of our students admitted to various medical schools.

IX. CONCLUDING REMARKS

From the information in the previous sections of these guidelines it may appear that only geniuses are ever admitted to medical school, and that they must work on their studies for most of their waking hours. This of course is a great exaggeration, for many students of only slightly better than average ability are admitted to medical school. Such students are hard-working, well-disciplined, very goal-oriented, and they have very good records. Students in the gifted category will obviously have to work less hard to maintain a strong academic record, and they will have more time for extracurricular activities. Most successful premedical students will look back upon their four years of undergraduate education as a very satisfying time, filled with fun and many good times but they have the added pleasure of having accomplished their goal of making a good record and obtaining a good undergraduate education. As a person matures it becomes more and more evident that real happiness and satisfaction comes not from self-indulgence but from real accomplishments with the accompanying respect and esteem of peers.

Occasionally one encounters a student with a strong academic record and competitive scores on the MCAT, yet the person is still not admitted to medical school. Are medical admissions committees capricious and arbitrary in their selection? In the opinion of the author of this little treatise, nothing could be further from the truth. As a group, medical admissions committees take their enormous responsibility very seriously. Most spend hundreds of hours selecting each class. It would be difficult to find a more honest or dedicated group. However, we must keep in mind that the admissions committees look for the person who will make the best physician. This is not always the same person who would make the best scientist, and not necessarily the person who is the best student. If applicants were admitted to medical school on the basis of credentials alone, there would be no need for an admissions committee. The process could be done by computer.

There are hopeful signs that the constantly increasing pressure on medical admissions committees may be easing. In the 1975 entering class there were 42,624 applicants for 14,963 spaces, giving an acceptance percentage of 35.1 (nationally). The number of applicants decreased to 42,351 (the first year with a decrease in more than 10 years) for 15,351 spaces in the 1976 entering class, and the acceptance rate increased to 36.3 percent. Complete figures are not available at this writing for the 1977 entering class, but there are indications that the number of applicants is plateauing. For students in the Franklin College of Arts and Sciences the acceptance percentage has been considerably above the national average. Considering only graduates at their first time of application, the acceptance percentage for students from the Franklin College has varied between 54 and 59 percent for the past three years. Since many students rejected in their first application are admitted upon reapplication, the students eventually accepted compared to total applicants is more than two-thirds. More accurate long-range statistics are not available at this time.

The credentials of accepted students continue to rise. Nationally the mean GPA of the 1976 entering class was 3.50. Preliminary figures for the 1977 entering class indicate a mean GPA of 3.54. Students from the Franklin College in the 1977 entering class had a mean GPA of 3.59.

The general information section of the old MCAT was eliminated in the new test, but this does not mean that admissions committees are any less interested in recruiting students who are well-informed about important happenings in a wide range of fields from art and business to theater and zoology. An entering freshman in premedicine is still well advised to subscribe to a weekly news magazine such as Time or Newsweek (student discounts are available at savings of $\frac{1}{2}$ or more), and get into the habit of reading every issue from cover to cover. The omnivorous reader is usually a better candidate. A favorite question of interviewers is, "What was the last book (or the last 5 books) you read for pleasure"? The answer to this question often gives considerable insight into the breadth of the education and interests of an applicant. As explained earlier, medical admissions committees seek a broadly educated person with an interest in and an awareness of happenings in many different fields. The relatively low acceptance rate from such fields as medical technology and pharmacy has been attributed by many observers to the fact that their training is too narrow and technical.

Many different traits and personality or behavior characteristics have been discussed in these guidelines, but if one could be pinpointed as more important in predicting success or failure of an entering freshman who listed premedicine as his major, it would be attitude. The person with a positive, optimistic attitude will usually be successful, whereas students lacking in this essential quality are seldom accepted in a medical school.

The student should remember that admission is a two-way street. Admissions committees are trying to find the best possible candidates to fill their class, and they will actively recruit the type individual who shows promise of developing into an outstanding physician. Ideally, a student would be accepted at every school to which he or she applies. The applicant then makes the final decision as to which medical school to attend. It is hoped that by following these guidelines, many more of our students will be faced with the problem of deciding which medical school to attend from among several acceptances they have received.

Appendix I

BOOKS AND REFERENCES OF INTEREST TO STUDENTS IN PREMEDICINE

1. Medical School Admission Requirements (AAMC). Published annually in late May, listing latest available requirements plus selection factors and statistics on the entering class.
Price - \$5.00
2. The New MCAT Student Manual (AAMC). A detailed description of the New Medical College Admissions Test with information on preparation for the test.
Price - \$3.25
3. Minority Student Opportunities in U. S. Medical Schools (AAMC). A description of the programs available for minority students at all U. S. Medical Schools.
Price - \$3.00
4. AAMC Curriculum Directory (AAMC). A description of the curriculum including combined degree programs, innovative instructional methods, etc. for all U. S. Medical Schools.

The books listed above are available from: Association of American Medical Colleges, One Dupont Circle, N. W., Suite 200, Washington, D.C. 20036.

Books 1 and 2 are also available for purchase in the University Bookstore.

Books 3 and 4 are available for use in the Premedical Advising Office.

5. Medical Student: Doctor in the Making. James A. Knight, M.D., 243 pages.
Price - \$8.50
Appleton-Century-Crofts, 292 Madison Avenue, New York, New York 10017. 1973
6. A Guide for Pre-Medical Students. Martha P. Leape, 166 pages.
Price - \$5.00
Office of Career Services, Harvard University, 54 Dunster Street, Cambridge, Massachusetts 02133. 1976
7. Horizons Unlimited. A Handbook Describing Rewarding Career Opportunities in Medicine and Allied Health Fields, 134 pages.
Price - 75¢
American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610. 1966
8. The Physician's Career. Teaching Outline on Medical Practice and Community Relations for Physicians and Medical Students. Henry F. Howe, M.D., Editor, 100 pages.
Price - 75¢
American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610. 1967
9. How To Get Into Medical and Dental School. Gershon J. Shugar, Ph.D., Ronald A. Shugar, M. D., and Lawrence Bauman, D.D.S., 110 pages.
Price - \$4.00
Arco Publishing Co., Inc., 219 Park Avenue, South, New York, New York 10003. 1972

Appendix II

REQUIREMENTS FOR THE B.S. DEGREE

Summary of B.S. Degree Requirements

1. English Composition -----	10 hours
2. Foreign Language -----	5-15 hours
3. Literature -----	10 hours
4. History -----	10 hours
5. Social Science -----	10 hours
6. Humanities/Social Science Electives ----	10 hours
7. Mathematics -----	15 hours
8. Science -----	30 hours
9. Mathematics/Science Electives -----	20 hours
10. Major -----	40 hours
11. Physical Education -----	6 hours
12. Electives -----	<u>20-30 hours</u>
TOTAL REQUIRED FOR GRADUATION	196 hours

Courses Typically Used to Satisfy These Requirements:

1. English Composition: ENG 101 and 102, with a minimum grade of 2.0. ENG 101 is often exempted with credit.
2. Foreign Language: 3rd quarter proficiency is required. Any foreign language, modern or classical, offered at the University will satisfy this requirement.
3. Literature: This requirement may be satisfied by any combination of ENG 131, 132, CML 121, 122, CLC 120, 121 or literature courses in a foreign language.
4. History: Any course numbered 111 to 399.
5. Social Sciences: Courses in Anthropology, Economics, History, Geography (not physical), Philosophy (not logic), Political Science, Psychology, Sociology, or Speech Communication.
6. Humanities/Social Science Electives: Courses from Fine Arts, Foreign languages, Literature, or Social Sciences.
7. Mathematics: Must include MAT 253. MAT 100 is typically exempted with credit.
8. Science: Three 10 hour sequences are required. These will typically include CHM 121, 122 (127, 128), BIO 101, 102 (111, 112) plus PCS 127, 128 (137, 138).
9. Mathematics/Science Electives: This 20 hour requirement will typically be met with MAT 254, CHM 123 (129), ZOO 226 and PCS 229 (239).
10. Major: Courses to satisfy this 40 hour requirement must be approved by the major advisor and grades must be at least 2.0. CHM 340 and 341 (240, 241) will typically be used to satisfy this requirement.
11. Physical Education: 6 one hour courses are now required. Waivers may be granted under some circumstances. Students entering Fall 1977 or later will have different PE requirements.
12. Electives: No more than 15 hours credit may be taken outside the Franklin College of Arts and Sciences. Basic ROTC and certain other courses may not be used for the 196 hours required for graduation.

GENERAL REQUIREMENTS: Ninety hours credit in residence is required. Students must also complete all University System requirements (constitution, history, rising junior exam and exit exam).

Appendix III

REQUIREMENTS FOR THE B.S. (PREMEDICINE)

Premedical students admitted to the School of Medicine, Medical College of Georgia, before completion of the baccalaureate degree are eligible to receive the B.S. (Premedicine) from the University of Georgia after successful completion of their freshman year in medical school, if they meet the requirements outlined below.

	<u>Quarter Hours</u>
English 101 and 102: (minimum grade of 2.0)	10
Foreign language: (3rd quarter proficiency)	5-15
Literature: (see B.S. requirements)	10
History: (any course numbered 111-399)	10
Social sciences: (see B.S. requirements)	10
Social sciences/humanities: (see B.S. requirements).	10
Mathematics: (must include MAT 253)	10
Biology 101 and 102 (or 111 and 112)	10
General chemistry 121, 122 and 123 (or 127, 128, 129)	15
Organic chemistry 340 and 341 (or 240 and 241)	10
Physics 127 and 128 (or 137 and 138)	10
Electives in Arts and Sciences to complete 135 hours	15-25
	<hr/>
	TOTAL: 135

The student must also satisfactorily complete 6 quarter hours credit of physical education and 45 of the 135 hours listed above must be taken in residence. (This is an exception to cover transfer students). All requirements of the University System (history, constitution, rising junior exam and exit exam) must also be completed. Electives must be approved by the premedical advisor and will normally include such courses as BCH 310, BIO 320 and MIB 350.

Appendix IV

A TYPICAL PREMEDICAL PROGRAM

Freshman Year

<u>Fall</u>	<u>Winter</u>	<u>Spring</u>
CHM 121 (127)	CHM 122 (128)	CHM 123 (129)
MAT 116	MAT 253	MAT 254
ENG 102	ENG 131	ENG 132

Sophomore Year

<u>Fall</u>	<u>Winter</u>	<u>Spring</u>
PCS 127 (137)	PCS 128 (138)	PCS 229 (239)
BIO 101 (111)	BIO 102 (112)	ZOO 226
PSY 101	HIS 251	HIS 252

Junior Year

<u>Fall</u>	<u>Winter</u>	<u>Spring</u>
CHM 340 (240)	CHM 341 (241)	BCH 310
GER 101	GER 102	GER 103
FA 300	CLC 310	POL 101

The program outlined above is typical of the courses which may be taken by a premedical student during the first 3 years in a B.S. program in the Franklin College of Arts and Sciences. The courses above would satisfy minimum admission requirements at most medical schools in the U.S. and would complete general degree requirements for the B.S. in Arts and Sciences, except for the major and electives, which could be completed during the senior year.

This program would also satisfy minimum requirements for the B.S. (Premedicine) for a student matriculating at the Medical College of Georgia before completion of the baccalaureate. However, in order to take the MCAT with the proper course background, most early admissions candidates must begin their physics sequence in the spring of their freshman year, begin organic chemistry (CHM 340) in the spring of their sophomore year, then attend summer school after completion of their sophomore year and take CHM 341. The MCAT would be taken in the fall during the 2nd quarter of their junior year.

It should be stressed that this is only a possible program of study and many courses listed may be substituted, since considerable flexibility exists in the selection of courses within certain broad categories.

