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ABSTRACT

A description of the standardized, multiple-choice Medical College Admission Test (MCAT) and how to use it is offered. Medical school admissions officers medical educators, college faculty members, and practicing physicians are active participants in selecting content, drafting test specifications, and authoring questions for the exam. The MCAT is designed to: assess understanding of science concepts and principles identified as prerequisite to the study and practice of medicine; evaluate basic analytical skills in the context of medically relevant problems and data; and help admissions committees predict which of their applicants will perform adequately in the medical school curriculum. Its six scores are biology knowledge, chemistry knowledge, physics knowledge, science problems, skills analysis--reading, skills analysis--quantitative. Six chapters are as follows: a description of the MCAT; an chapters are as follows: a description of the MCAT; an explanation of what MCAT scores show about examinees; ways to interpret an applicant's MCAT scores; methods of comparing MCAT performance among applicants; a discussion of how to consider the six MCAT scores; and ways to evaluate the admissions process at an institution. Two appendices disucss the assessment of the selection process and provide sources of additional information. (SM)

MEDICAL COLLEGE ADMISSION TEST

USE OF MCAT DATA IN ADMISSIONS

A GUIDE FOR MEDICAL SCHOOL ADMISSIONS OFFICERS AND FACULTY

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ASSOCIATION OF AMERICAN MEDICAL COLLEGES

USE OF MCAT DATA IN ADMISSIONS

A GUIDE FOR MEDICAL SCHOOL ADMISSIONS OFFICERS AND FACULTY

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This guide provides admissions officers and medical school faculty members who serve on admissions committees with information about the design, objectives, interpretation, and use of the Medical College Admission Test (MCAT) in selecting students. The following questions are addressed:

- ☐ What is the Medical College Admission Test?
- ☐ What do MCAT scores tell me about examinees?
- ☐ How do I interpret applicants' MCAT scores?
- ☐ How can I compare MCAT performance among applicants?
- ☐ How should I consider the six MCAT scores?
- ☐ How can I evaluate the admissions process at my institution?

Procedures for examining and assessing the selection process at your institution are discussed in Appendix A. Sources of additional information about the MCAT and student selection are referenced in Appendix B.

The information about methods for ranking applications and summarizing MCAT scores at the preinterview stages of selection is based in part on AAMC's 1986 survey on institutional admissions practices and the use of test data in student selection. Responses from medical school admissions officers were valuable in developing the guide.

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The MCAT is a standardized, multiple-choice exam. Medical school admissions officers, medical educators, college faculty members, and practicing physicians are active participants in selecting content, drafting test specifications, and authoring questions for the exam. The development and maintenance of the examination is the responsibility of the Association of American Medical Colleges.

The MCAT is designed to achieve several purposes.

- To assess understanding of science concepts and principles identified as prerequisite to the study and practice of medicine
- To evaluate basic analytical skills in the context of medically relevant problems and data
- To help admissions committees predict which of their applicants will perform adequately in the medical school curriculum

The MCAT tests for knowledge of material covered in first-year, introductory undergraduate courses in general biology, general chemistry, organic chemistry, and general, noncalculus physics. Six scores are reported:

- Biology Knowledge
- Chemistry Knowledge
- Physics Knowledge
- Science Problems
- Skills Analysis: Reading
- Skills Analysis: Quantitative

The MCAT provides admissions committees with a standardized measure of academic achievement for all examinees. Differences in undergraduate curricular emphases, evaluation standards, and grading scales make much preadmission information, such as undergraduate grades from different colleges, difficult to interpret. In contrast, the MCAT provides assessment information on a common scale for all examinees.

Evidence exists for the predictive validity of MCAT scores to performance in medical school basic and clinical sciences programs and on the National Board of Medical Examiners (NBME) tests. The AAMC Spring 1986 survey of medical school admissions officers reveals that they use MCAT scores to:

- ☐ Identify applicants likely to succeed in medical school and those likely to experience academic difficulty
- ☐ Diagnose applicants' specific strengths and weaknesses in science preparation and analytical skills
- ☐ Interpret the transcripts and letters of evaluation for applicants from unfamiliar undergraduate institutions

MCAT scores are intended to be only one of several measures of applicants' qualifications. Consistencies and disparities in the information provided by multiple sources of data help provide a more complete picture of the applicant. Many medical school admissions committees evaluate MCAT data in conjunction with applicants':

- ☐ Undergraduate grade point averages
- ☐ Breadth and difficulty of undergraduate coursework
- ☐ Quality of the degree-granting undergraduate institutions
- ☐ Personal comments on American Medical College Application Service (AMCAS) and/or institutional application forms
- ☐ Letters of evaluation from undergraduate advisers, faculty members, premedical committees, community leaders, research sponsors, and/or employers
- ☐ Medical school interview results
- ☐ Participation in activities/events demonstrating motivation, responsibility, maturity, integrity, resourcefulness, tolerance, perseverance, dedication to service, and/or other relevant noncognitive characteristics

- Involvement in extracurricular activities such as student governance and community service during undergraduate and graduate years
- Gender, racial, and ethnic backgrounds
- Involvement in and quality of academic programs at the graduate and postgraduate levels
- Involvement in and quality of undergraduate and graduate health-related work and research experience
- State or county of legal residence

Although information provided by the MCAT and other preadmission data may overlap, notable differences are seen between MCAT scores and data garnered from other sources. Research shows, for example, that:

- Correlations between the six individual MCAT scores and Biology, Chemistry, Physics, and Math GPA range from .41 to .58;
- Correlations between the six individual MCAT scores and nonscience GPA range from .25 to .40;
- Correlations between the six individual MCAT scores and selectivity of the undergraduate institution, as measured by the average institutional combined Scholastic Aptitude Test score, range from .31 to .39; and
- Correlations between number of course hours in Biology, Chemistry, and Physics and MCAT scores in those areas range from .06 to .17.

The correlations between 1) MCAT and science and nonscience GPAs, and 2) MCAT and undergraduate institutional selectivity are moderate. MCAT, GPA, and selectivity provide partially redundant pictures of academic potential. Correlations between MCAT and number of course hours in the sciences are low, which suggests that the record of undergraduate work provides useful data that are independent of the MCAT. These correlations indicate that performance on the MCAT is relatively unaffected by enrollment in advanced science courses.

The MCAT scores are reported on a scale ranging from one (lowest) to 15 (highest). The average scaled score on each of the six tests was set at eight when the test was introduced in 1977; the mean score varies slightly as characteristics of the examinee population change. The standard deviation of each test is 2.5. Scaled scores are converted to percentile scores to reveal an examinee's standing in relation to other examinees.

As a standardized test of cognitive achievement, the MCAT assesses preadmission characteristics of examinees. As a fixed-point assessment, MCAT scores reflect neither the dynamics of development nor the increased reliability that repeated, cumulative assessment can provide. MCAT scores may be fallible indices of cognitive achievement due to factors such as:

- An applicant's poor health on the test date
- An applicant's lack of understanding of test instructions
- Less than optimal test room conditions or other factors beyond the examinee's control

The scores reported for applicants should be considered approximate estimates of achievement rather than infallible indicators.

Because MCAT scores are not exact representations of achievement levels for individuals, confidence bands are needed to explicate the range of test scores within which data depicting examinees' achievement levels probably lie. On the MCAT, a confidence band corresponds to plus or minus one scaled score from the individual's reported score. In 68 percent of the cases, this confidence band includes the score an individual would receive on an instrument with perfect measurement properties. In Figure 1, confidence bands, shown by bracketed lines, correspond to plus or minus one scaled score from the reported score; the X's indicate the individual's reported scores.

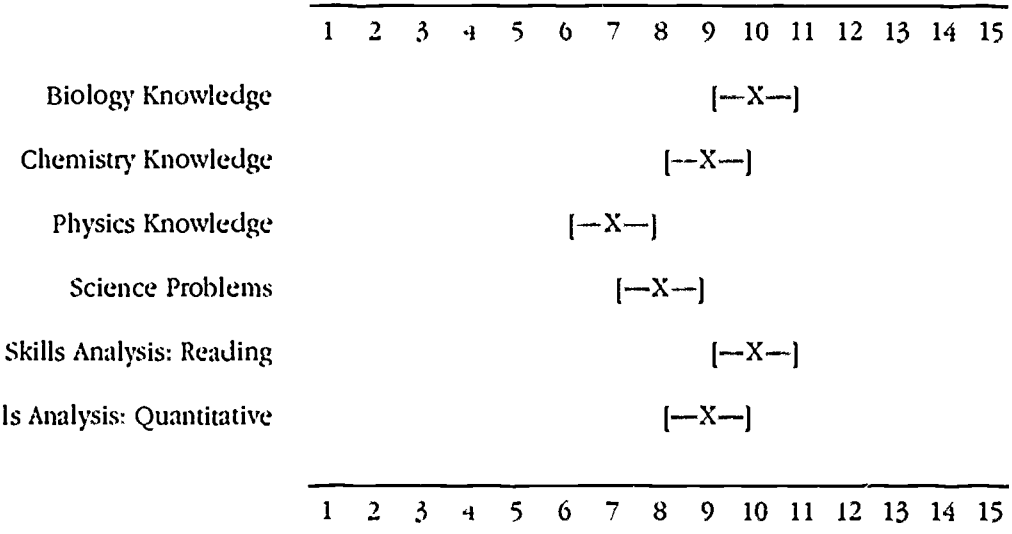


Figure 1
Confidence bands (bracketed lines) and reported scores (X's) for a hypothetical MCAT examinee on six MCAT tests.

Plus or minus two scaled scores defines a 95th percent confidence band. This means that in 95 percent of the cases, the score best representing an applicant's achievement level lies within two points of the reported score.

When confidence bands overlap, as for example with the Chemistry Knowledge and Science Problems scores in Figure 1, you can conclude that performance in the two areas is essentially equivalent. When bands do not overlap, such as in Biology and Physics Knowledge, you can judge that interpretable performance differences exist between the two areas.

Similar conclusions can be drawn when comparing the MCAT scores of two examinees. If, for example, confidence bands for Biology scores of two applicants overlap, you can conclude that the preparation and performance of the two students is essentially equivalent. If bands do not overlap, you can conclude that performance differences exist.

Drawing conclusions about performance differences for examinees at extreme ends of the MCAT score scale is generally unwarranted. In many cases, differences between levels of predicted performance in the basic and clinical sciences for examinees scoring one scale point apart at the extremes are small. This is true at both the high and low ends of the scale.

Many methods can be used to rank or compare applicants on MCAT performance before they are interviewed. Some methods of considering applicants' MCAT scores are more appropriate psychometrically and/or more consonant with the goals of medical education programs than others. The *Standards for Educational and Psychological Testing* (1985), prepared by a joint committee of the American Educational Research Association, the National Council on Measurement in Education, and the American Psychological Association, state that test scores should never be used in isolation to make accept/reject decisions about applicants. Respondents to the 1986 AAMC survey on the use of MCAT data describe several approaches to comparing or ranking application folders using MCAT data and other information at the preinterview stages of selection:

- ☐ **APPROACH A.** Consider MCAT scores and other admission data without formal weights to rank application folders or sort applications into categories representing varying levels of predicted success in medical school.

Using this approach, you might sort applications into categories based on a number of variables. Category One might include applications above given MCAT scores, grade point averages (GPAs), patterns of course enrollment and research involvement. Placement in Category Two might require slightly lower qualifications. Any number of sorting categories may be used; subsequent screening activities may vary by category. The cutoffs for inclusion in each category should be based on research or cumulative experience about academic difficulty and attrition at your institution. This approach is more fully discussed in Appendix A.

- ☐ **APPROACH B.** Consider MCAT scores with other admission data to create a formula-based combined minimum score, ranking of application folders, or sorting of applications into categories representing varying levels of predicted success in medical school.

A formula considering MCAT scores, GPAs, selectivity of undergraduate institution, and state of residence, for instance, can be developed and applications ranked or sorted into groups using the formula at initial screening. Institutional research on the predictive validity of preadmission data to performance in the basic and clinical sciences can be used to derive a formula-

based system. Alternatively, your admissions committee can set up a screening formula based on judgments about the relative importance of various personal and academic characteristics of candidates. This approach is also described in Appendix A.

- ☐ **APPROACH C.** Establish minimum scores for the six MCAT tests and retain applications of those with scores above the minimum levels for further consideration.

Past institutional experience with MCAT and school performance can be used to define minimum scores. If, for example, applicants scoring below five in Chemistry Knowledge or Skills Analysis. Reading performed poorly in the basic science program at an institution, application folders for individuals scoring below these levels might be removed from the applicant pool.

- ☐ **APROACH D.** Define ranges of exemplary, mid-level, and unacceptable MCAT scores at the preinterview stage(s); subsequent screening activities may vary by score range.

This is an extension of Approach C. In addition to minimum levels, MCAT ceilings may be established. To illustrate, many faculties find little difference in medical school performance among students who scored in the upper MCAT levels. These admissions committees assign MCAT scores of nine, for example, to all folders with MCAT scores of nine and above. The rationale is that finer upper level discriminations are unnecessary for predicting success in medical school and other criteria should be used for selecting candidates with scores in this range.

With any of these screening approaches, and particularly with Approaches C and D, you may choose to establish different criteria for special categories of applicants, such as those who are educationally or financially disadvantaged applicants or applicants interested in practicing in underserved communities. Average test scores for some of these applicants may fall below those of the majority group. Remember that the MCAT is a fixed-point assessment, much useful information is provided by academic records, GPAs, and other preadmission data reflecting the cumulative experience and performance of special applicants. Your decisions about alternate criteria for such applicants should be based on your knowledge of the performance of past and present students who have special charac-

teristics and on decisions about the goals of the medical education program in your school. In your decisions, you should also consider the support services that are available at your institution.

Since MCAT scores are only one source of data upon which to base decisions in admissions, admissions committees should use MCAT scores with other information about applicants at all stages that draw on test data for decision making. The importance and ease of using such sources as letters of evaluation for applicants, interview performances, and accounts of extracurricular and research experience increase as admissions decision making proceeds and the size of the applicant pool you are considering decreases. The importance of MCAT data, concomitantly, decreases.

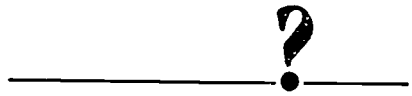
MCAT research on test-repeater performance and on score gains for examinees receiving university-based or commercial preparation for the MCAT also bears on the consideration of scores at the preinterview stages of decision making. The data suggest that:

- Average MCAT retest gains range from .41 to 1.15 scale score points. Repeaters who initially score below 8 gain more than those with higher initial scores. Retest gains are smaller for both of the Skills Analysis tests.
- Average coaching gains range from .05 to .55 scale score points. Half point gains are realized in the science areas of assessment after coaching. Little coaching gain is observed for Skills Analysis: Reading and Skills Analysis: Quantitative.

Research indicates that you should treat data for reexaminees or for students who received coaching in the same way that you treat data for other applicants.

As earlier stated, the MCAT consists of four science, one reading, and one quantitative area of assessment. The six MCAT scores are purposefully reported separately. Independent consideration of the level of performance indicated by each score yields a profile of the candidate's strengths and weaknesses.

The separate subject matter scores provide diagnostic information and have value in clarifying applicants' achievement levels. Separate scores also allow medical schools to weight MCAT content areas in ways relevant to their curricula. Separate scores provide students with information about specific strengths and weaknesses and allow them to focus their preparation for future testing and/or entry to medical school. Similarly, admissions committees can use scores diagnostically. For example, they can evaluate applicants' weaknesses in relation to the availability of instruction in relevant areas within the medical school setting. Admissions committees are also enabled to compare individual MCAT scores to corresponding course enrollments and grades on applicants' transcripts.



Results of the survey on MCAT use indicate, however, that MCAT users often summarize the six area scores in a number of ways. Some of the reported methods are more psychometrically sound and more consistent with the goals of medical education than others. Several examples of methods respondents currently use in considering the six MCAT scores follow. These are methods that are currently in use; not all of them exemplify sound practice.

- **METHOD A.** The six areas of assessment are considered individually and equally.
- **METHOD B.** The six scores are considered individually. Some areas of assessment are explicitly or implicitly accorded more weight than others. Local validity data or cumulative experience are used to define weights for each test.
- **METHOD C.** The six scores are summed or averaged. The scores are assigned unequal weights in computing the total or mean. Validity data and/or experience are used to define weights.
- **METHOD D.** The four science scores are summed or averaged and the two skills scores are summed or averaged to yield MCAT science and Skills composites.
- **METHOD E.** Scores for the six areas of assessment are summed or averaged. Each score is weighted equally in computing the total or mean.

If the admissions process at your school calls for the simple or weighted summation or averaging of scores at some point in decision making, the method you use should reflect the curricular emphases and goals of your school. For example, if data or experience indicate that Physics and Quantitative scores are less related to success in your program than performance in the other areas, these scores should be given lesser weight in computing the total or average score. Alternatively, if data indicate, or if it is judged, that basic analytical skill is as important to success in your program as achievement in biology, chemistry, and physics, Method D may be a good way to summarize scores at your institution. Research shows that, in general, the science scores are strong predictors of performance in the basic sciences. Skills Analysis: Reading and Skills Analysis: Quantitative data appear to predict clinical performance. Skills Analysis: Reading is also a good predictor of basic science performance for special categories of applicants, such as those who are educationally disadvantaged.

In examining MCAT data for their applicants, many committees sum or average the six test scores with equal weights at some point in admissions deliberations (Method E). This method is often cited as an example of improper use of score information in admissions decision making. It results in a selection index that nominally weights the sciences by four and weights the Skills Analysis tests by a factor of two. The computation of a summary index with equal subpart weights places heavy emphasis on science preparation in selecting medical students and devalues measurement of the skills assessed by the Reading and Quantitative sections. The creation of such indices runs counter to the admonition of the report of the Panel on the General Professional Education of the Physician and College Preparation for Medicine (GPEP) that admissions

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committees examine applicants' credentials for evidence of scholarly endeavor in the natural and social sciences and in the humanities. The GPEP Panel recommended that "the relative weights accorded to the scores on the six sections of the MCAT . . . [be made] consistent with the best use of the examination as a predictive instrument." Again, local research on the predictive validity of the six MCAT scores to performance in the basic and clinical sciences and on NBME can be used to derive a summary score that reflects an institution's goals and curricular emphases. Guidelines for executing such analyses appear in Appendix A. Admissions committees can also weight the individual scores based on judgments about the relative importance of tested preadmission skills to success in the medical curriculum. It is important to consider the content implications of any score summary methods that are used.

Many committees find that it is unnecessary to sum or average scores after initial screening. Certainly by the interview stage, you should use individual, rather than combined, scores.

One of the central concerns of admissions officers is whether the tests and data they use in the admissions process are valid. It is important to know whether preadmission data predict adequately how well students will perform in the basic and clinical sciences at your institution.

Evidence for the reliability and validity of the MCAT is available for a number of schools. For example, analyses of examinee data and research conducted at several medical schools indicate that:

- The reliabilities of the MCAT tests range from .84 to .88.
- The median multiple correlation between MCAT and year 1 grades is .41. When GPA is added to MCAT, the median multiple correlation is .52.
- The median multiple correlation between MCAT and year 2 grades is .37. When GPA is added to MCAT, the median multiple correlation is .51.
- The median multiple correlation between MCAT and NBME, Part I is .54. When GPA is added to MCAT, the median multiple correlation is .59.
- Correlations between the six individual MCAT scores and the NBME, Part II total range from .34 to .62.
- Correlations between the six individual MCAT scores and the NBME, Part III total range from .11 to .58.
- MCAT scores also predict probability of academic difficulty. Little variation in probability is seen between MCAT scores of 8 and 15. Probability of academic difficulty increases systematically below 8.

These data reflect the usefulness of MCAT scores for predicting performance in medical school and on the NBME. Research on the correlations between MCAT and performance in years three and four by a number of institutions is currently in progress.

Examining the relationships between preadmission data—such as undergraduate GPAs, MCAT scores, accounts of extracurricular activity, and interview ratings—and performance in the basic sciences and clinical setting is likely to provide important directions for admissions decision making at your institution. Such assessment will help your committee shape a selection process that results in the effective and equitable identification of promising physician candidates.

The *Standards for Educational and Psychological Testing* referenced earlier state that those concerned with admissions should portray the relevance of selection procedures and

selection criteria to admissions decision making and to the subsequent performance of selected candidates at an institution. According to the authors, admissions personnel should also be cognizant of possible unintended consequences of selection procedures and attempt to avoid actions that have negative results. For example, overreliance on undergraduate science GPA and science MCAT scores may result in the admission of students who perform admirably in a school's basic science program but do less well in the clinical setting. Narrow selection criteria may result in an entering class that is more homogeneous than you would like or may cause inequities in the selection of minority or disadvantaged applicants. The *Standards* go on to say that the relationships between preadmission predictors and medical school performance measures should be described by correlation coefficients and regression equations. These data summary techniques are described in Appendix A.

Conducting validation studies at one's own institution is important for a number of reasons. A standardized test, such as MCAT, must necessarily compromise the institution-specific requirements of individual schools in order to be useful generally. It is important, therefore, to assess the validity of MCAT and other preadmission data at an institutional level; differences in applicant pools and curricular emphases are likely to underlie predictive differences among schools.

Such efforts should begin with a statement of the goals of the overall admissions process and of each admissions screening stage. Faculty members should also specify the skills they consider critical to success in the medical school curriculum and in the practice of medicine. Once admissions committee members have articulated their goals and identified critical skills, these goals and skill listings can be used to suggest the types of preadmission data needed for decision making at each screen. This approach—beginning with (1) the articulation of the goals of your admissions committee for each screening stage, (2) the identification of skills that underlie success in your program and in the profession, and continuing with (3) the examination of preadmission and performance data that speak to these skills and goals—is more completely described in Appendix A. Text and software references are also provided in the Appendix for additional explication. A case study is presented for illustrative purposes. Research of the type described there is likely to result in increased admissions decision-making validity and the selection of competent and concerned health-care providers.

As was stated in the body of this guide, the general approach to evaluating the selection process at your institution should be to (1) articulate the goals of your admissions committee for each screening stage, (2) identify skills that underlie success in your program and in the profession, and (3) examine preadmission and performance data that speak to these skills and goals. For example, if the objective of the initial evaluation of application folders is to retain in the pool those applicants with a low risk of academic failure at your institution, you might use information about the relationship between preadmission characteristics and academic difficulty for recent graduating classes to suggest initial screening criteria. Data might suggest, for instance, that students with MCAT scores below 5 and or grade point averages less than 2.5 in combination with records of delayed college or university graduation experience academic difficulty at your medical school. The initial screen might then be structured to remove applications of persons with these characteristics.

If a second review of applicant folders is accomplished to select a fixed number or percentage of students with potential for academic and clinical success in your program and in the profession, correlational analyses of the relationship between selected screening and school performance data might be executed on data for recent graduating classes to define procedures for identifying such students. The critical skill listings drafted by your faculty should be used to identify relevant school performance and promising preadmission data. Guidelines for computing correlational analyses can be found in univariate and multivariate statistics texts such as *Fundamental Statistics in Psychology and Education* by Guildford and Fruchter (1978) and *Multiple Regression in Behavioral Research* by Kerlinger and Pedhazur (1973). Descriptions of these procedures may also be found in documentation for many statistical analysis software packages, e.g., *Statistical Package for the Social Sciences^X (SPSS^X) User's Guide,* SPSS, Inc. (1983) or the *Statistical Analysis System (SAS) Users' Guide* by SAS Institute, Inc. (1985). Correlations between preadmission and individual or combined school performance data can be computed. In most cases, a more parsimonious picture of predictor/criterion relationships will be derived from a multi-correlational approach called multiple regression. This approach considers both the correlations among predictors and the relations between predictor and criterion, that is, medical school performance, variables.

Researchers at the University of Arizona have examined their admissions process in a manner similar to that described

here. They have documented the relationship between traditional preadmission predictors, interview ratings, and medical school performance. In addition to undergraduate GPA data and MCAT scores, interview ratings were obtained on scales addressing the applicant's manner, maturity, motivation, verbal skills and expression, interpersonal contact, and maturity. Performance criteria were compiled for three basic science courses and on three clinical clerkship scales: Internal Medicine Clinical Skills, Internal Medicine Maturity, and Obstetrics/Gynecology Attitude.

Regression equations were calculated and findings indicated that basic science grades were well predicted by GPA, MCAT, and interview ratings. GPA and MCAT predicted the clinical data at a lesser level with interview ratings contributing strongly to the prediction of clinical criteria. This research stresses the importance of using multiple data sources in admissions decision making. The methods used by these researchers are consonant with the correlational procedures described by the authors of the *Standards for Educational and Psychological Testing* (1985). It is likely that the preadmission and performance data used in this study do not represent the range of information sources that are relevant to, available at, and potentially useful for assessing selection procedures at your institution. As reported, these procedures also do not allow for the inclusion of preadmission data that are not proved useful by correlational analyses but that reflect qualities deemed desirable by your committee and medical school faculty.

Several caveats to the general correlational and regression procedures described by the *Standards* should be noted. The first is that often basic science and clinical grades or ratings do not draw distinctions among students that are useful for research purposes. For example, the vast majority of students may receive passing marks or high passes in a pass/fail system. This type of grading policy limits the amount of information available from correlational analyses. Rating systems with numerous gradations are more useful analytically. Alternatively, medical school performance data may not reference attributes that a faculty considers critical to the effective provision of patient care; for instance, values and attitudes that promote concern for the individual and society are important to physician practice. Special attention should be paid to preadmission information that mirrors these judgments even if criterion data ignore such characteristics.

A second and related limitation is that much of the valuable information provided in application folders is difficult to quantify for research or selection purposes. For example, it is

difficult to quantify data provided by personal statements, letters of evaluation, and accounts of extracurricular work or research experience. Efforts should be made to assess these rich sources of information as early in the decision-making process as is possible. These sources may reflect personal characteristics that account for important differences between students in medical school performance.

A third limitation to the approach described in the *Standards* is that medical school performance data are unavailable for applicants who were not selected. The non-selected pool typically represents a broader range of preadmission characteristics than the selected group. It is plausible that many applicants who were not admitted would have succeeded in medical school. The characteristics of students for whom school performance data are obtainable reflect the selection constraints imposed in previous years. Because data for selected students are limited, the information provided by correlational analyses is somewhat restricted.

Despite these caveats, research of this type is likely to inform admissions decision making and provide for the selection of promising candidates. Careful articulation of the goals of your medical education program, identification of the skills deemed critical to physician performance, and the establishment of links between these skills, goals, and available applicant data at each screening stage are likely to result in increased admissions decision-making validity.

At some point in the admissions process, there should be an opportunity to examine more carefully the qualifications of special categories of applicants, such as educationally or financially disadvantaged applicants or those interested in practicing in underserved communities, who do not pass established screens. Information gleaned from statistical examinations of preadmission and performance data should be supplemented by judgments about institutional objectives for and the potential accomplishments of special students. The availability of institutional support services should also be considered with regard to these applicants.

When the interview pool has been selected and interviews are complete, the application materials of your candidates are enhanced by information not communicated by written application materials. The weights assigned by your committee to available preadmission data are likely to change with the addition of interview information. As with earlier screens, program objectives and judgments about the relative importance of various applicant characteristics should be used in the final admissions stages to shape a decision-making tool for student selection.

Additional information is available in a number of AAMC publications:

1. Information about the specific content of the MCAT, its organization, and scoring scheme appears in *The MCAT Student Manual* (Washington, D.C.: Association of American Medical Colleges, 1984).

2. Technical information on the psychometric characteristics of the MCAT, its reliability and validity, and performance characteristics for gender and racial/ethnic population groups, is referenced in *An Annotated Bibliography of Research on the Medical College Admission Test* (Washington, D.C.: Association of American Medical Colleges, 1987).

3. Data on MCAT validity and on the effect of coaching and practice on MCAT test results are reported in the *Medical College Admission Test Interpretive Studies Series* (Washington, D.C.: Association of American Medical Colleges, 1984, 1986).

4. Performance data for first-time and repeating examinees are published each year in the *MCAT Summary of Score Distribution Reports* (Washington, D.C.: Association of American Medical Colleges). These reports also provide MCAT data by gender, year-in-college, undergraduate major, racial/ethnic group, and state of residence. Trend data on demographic and selected academic variables for medical school applicants and matriculants are published annually in *Trends in Medical School Applicants and Matriculants* (Washington, D.C.: Association of American Medical Colleges).

5. Information about the selection and retention of minority applicants appears in workshop materials for the *Simulated Minority Admissions Exercise* (Washington, D.C.. Association of American Medical Colleges, 1986).

If important topics are not covered in this document or in these other references and you would like additional information, please call or write the author.