AAMC

Medical College Admission Test®

Using MCAT® Data in 2026 Medical Student Selection

The MCAT® exam is a program of the Association of American Medical Colleges

aamc.org/mcat

Using MCAT® Data in 2026 Medical Student Selection

AAMC
Washington, D.C.

The AAMC (Association of American Medical Colleges) is a nonprofit association dedicated to improving the health of people everywhere through medical education, health care, biomedical research, and community collaborations. Its members are all 160 U.S. medical schools accredited by the Liaison Committee on Medical Education; 12 accredited Canadian medical schools; nearly 500 academic health systems and teaching hospitals, including Department of Veterans Affairs medical centers; and more than 70 academic societies. Through these institutions and organizations, the AAMC leads and serves America's medical schools, academic health systems and teaching hospitals, and the millions of individuals across academic medicine, including more than 210,000 full-time faculty members, 99,000 medical students, 162,000 resident physicians, and 60,000 graduate students and postdoctoral researchers in the biomedical sciences. Through the Alliance of Academic Health Centers International, AAMC membership reaches more than 60 international academic health centers throughout five regional offices across the globe. Learn more at aamc.org. ↗

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MCAT Resources to Support Your Work

As you enter the 2026 admissions cycle, you will be leading the selection of medical students who will contribute to your school's mission and become the future physician workforce our nation needs. By assessing your applicants' academic preparation and competencies in the context of educational opportunities and lived experiences, you show your commitment to excellence in medical education. Resources to help medical schools use MCAT scores effectively in admissions are available on our online *MCAT Resource Hub for Admissions Officers* (aamc.org/mcatadmissions ↗). These resources will be useful for orienting new staff, training admissions committees, or simply gaining a better understanding of the MCAT exam and use of scores. We welcome your feedback and suggestions.

A Closer Look Video Series

Learn about the MCAT exam — what it measures, how it is scored, and how to best use scores as part of holistic review — in four short videos. aamc.org/mcat-closerlook ↗

Ten Years of MCAT Validity Committee Research Video Series

Hear your colleagues from the MCAT Validity Committee describe their research findings about academic preparation, admissions decision-making, and using the MCAT exam to predict academic performance. aamc.org/mcat-mvcvideos ↗

Exploring MCAT/GPA Thresholds in Medical School Admissions

Watch your colleagues discuss their data-driven approaches to changing MCAT/GPA thresholds at their schools. aamc.org/mcat-thresholds-video ↗

NEW! MCAT Data Explorer Dashboards

Three new data explorer dashboards — the MCAT Score/GPA Grid: Student Success Report, the MCAT/GPA Thresholds Explorer, and the College and Geographic Context Explorer — allow you to explore where your applicants lived and learned, how changing MCAT and GPA thresholds could impact your future classes, and how your matriculated students are performing on key success outcomes. Access the dashboards in the Integrated Admissions Reports section of AMCAS for Schools. amcas.aamc.org/admissions ↗

MCAT Research Collection

Learn more about MCAT research findings through this collection of articles. aamc.org/mcat-research ↗

MCAT Admissions Insights Email Series

Subscribe to get the latest updates on important research findings, new resources and tools, and timely information needed to use MCAT scores as part of the admissions process. To subscribe, please email mcatadmissions@aamc.org. ↗

Virtual MCAT Resource Tours

Walk through MCAT resources and information with our team. Open invitations for these virtual sessions will be sent to the *MCAT Admissions Insights* email list, and one-on-one tours are available by request.

To access all the resources AAMC has developed to help you use MCAT scores effectively, visit our online hub at aamc.org/mcatadmissions. ↗

Beyond Metrics: Using MCAT Scores in Admissions

Each year, medical schools look for prospective students with a passion for medical discovery and advancing patient care. They gather information about applicants' experiences — in health care, research, community service, and their own lived experience — for evidence of their commitment and readiness to build on those interests in medical school. They look for evidence of the personal qualities, such as service orientation, interpersonal skills, cultural awareness, teamwork and collaboration, and oral communication, which are essential for the medical school learning environment and for providing clinical care as a future physician. Medical schools also look for evidence of reliability and dependability, empathy and compassion, resilience and adaptability, and a commitment to learning and growth, which are all imperatives for thriving during students' demanding and rigorous medical training and for their future as physicians. Finally, medical schools look for evidence that prospective students have the critical thinking, quantitative reasoning, and science competencies of living systems and human behavior as their foundation for learning about the study and practice of medicine.[1]

Holistic review is a flexible, mission-driven approach to recruit and assess an individual's competencies by considering their experiences, attributes, and academic metrics in order to select applicants who will best contribute to the program's unique goals, learning environment, and the practice of medicine. By practicing holistic review, admissions committees consider the "whole" applicant, rather than disproportionately focusing on any one factor.[2]

The MCAT exam measures the science, thinking, and reasoning competencies of medical school applicants. It provides a common metric for evaluating applicants who may have different coursework histories and come from institutions with different curricula and grading standards. MCAT scores should be assessed along with other academic data in the application — such as undergraduate GPA, upward or downward grade trends, or postbaccalaureate education — to obtain a more complete picture of an applicant's academic readiness for medical school.

Further, while the MCAT exam is an important measure of academic readiness, it only provides one data point among all premedical competencies required for success in medical school.[1] In the big picture, many factors underlie and lead to success as a medical student and ultimately a practicing physician. Putting MCAT scores in the context of applicants' educational opportunities, experiences, attributes, and other academic data is the cornerstone of holistic review.

When applicants are selected for entry into medical school, they are evaluated based on experiences and competencies that will best prepare them for medical school. As matriculated students progress through the journey of medical education, the definition of successful performance naturally changes over time as each successive phase of education rests on the foundation of what came before.

A variety of additional factors can impact a student's medical school journey, including academic support, family and social support, individual circumstances, and medical school culture and climate. These factors cannot be predicted by the MCAT exam and often cannot be known during the holistic student selection process but continue to have an increasing impact on student success as students progress through undergraduate medical education and beyond. It is therefore vital for schools to consider their own student support resources when carrying out holistic review of applicants.

Learn more about the holistic review process and view resources, including updated core principles and the Holistic Considerations for the Admissions Cycle tool at aamc.org/holisticreview.↗

What Do Admissions Officers Say?

MCAT scores are an important part of a medical student's application and help admissions officers interpret grades and other academic data from undergraduate institutions with different curricular emphases and grading standards. In addition to applicants' academic data, admissions officers examine applicants' life experiences, demographics, and personal characteristics through personal statements, situational judgement tests, and interviews.

2023 Admissions Officers Survey

The AAMC periodically surveys admissions officers to learn how they implement holistic review of medical school applicants. The 2023 AAMC survey results show that experiences, academic metrics, demographics, and personal attributes all weigh heavily in decisions to offer interview invitations and acceptances.[3] The procedures admissions officers from different medical schools use to review these data differ in ways that reflect each school's unique missions, goals, and curricula, as well as the sizes and characteristics of their applicant pools.

Data from this and previous surveys show that the importance of undergraduate GPAs and MCAT scores, relative to other criteria, decreases as more information about applicants is gathered.[3,4,5,6] Applicant experiences, such as paid employment, community service or volunteer time in a medical or clinical setting, living or working with groups that have experienced disadvantage, or showing evidence of good interpersonal and intrapersonal skills, is also reported to be highly important to admissions officers. Placing applicants' MCAT scores and other academic metrics in the context of these educational opportunities, lived experiences, academic trajectories, and personal attributes enables medical schools to meet their missions and goals and not overlook students who would make valuable contributions to their programs. Please see Appendix B for the full results of this survey.

For additional guidance on the 2023 Supreme Court Ruling on admissions, please see: aamc.org/scotusadmissions. ↗

Academic, Experiential, and Demographic Variables of Highest Importance (≥3.0) as Rated by Admissions Officers Surveyed in 2023*

Academic Metrics

- GPA: cumulative science/math
- GPA: cumulative undergraduate total
- GPA: undergraduate grade trend
- MCAT total scores
- Completion of premedical course requirements
- MCAT total score trend
- GPA: cumulative total from postbaccalaureate premedical program

Experiences

- Community service/volunteer: medical/clinical
- Community service/volunteer: not medical/clinical
- Physician shadowing/clinical observation
- Leadership not listed elsewhere
- Paid employment: medical/clinical

Demographics

- U.S. citizenship/permanent residency (public)
- From your school's state or local region (public)
- Lived or worked with groups that have experienced disadvantage

Other Data

- Interpersonal skills (Service Orientation, Social Skills, Cultural Competence, Teamwork, Oral Communication)
- Intrapersonal skills (Ethical Responsibility to Self and Others, Reliability and Dependability, Resilience and Adaptability, Capacity for Improvement)
- Interview results

*Full results in Appendix B.

What Do the Data Show?

National-level data on the academic credentials of applicants who are accepted to medical school illustrate that although undergraduate GPAs and MCAT scores are important factors in admissions, they are not the sole determinants of admission decisions (Table 1). Schools use academic measures to make sure students can handle the rigorous coursework ahead. However, there isn't just one "magic number" that determines success — students with a range of academic backgrounds have proven they can succeed in medical school. When admissions committees review applications, they look at the whole person, not just test scores. They consider volunteer work, leadership experience, personal qualities, and life experiences alongside academic achievement. Research consistently shows that students admitted across a broad range of academic qualifications go on to graduate successfully.

TABLE 1. Applicants in 2022, 2023, and 2024 Who Were Accepted by at Least One Medical School

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	◆ 5% 15/309	◆ 3% 14/425	◆ 8% 74/914	◆ 19% 406/2,117	▲ 31% 1,214/3,891	▲ 43% 3,065/7,047	■ 55% 5,644/10,186	■ 70% 9,061/13,022	● 77% 9,624/12,490	● 84% 11,185/13,375	63% 40,302/63,776
3.60-3.79	◆ 2% 13/683	◆ 3% 25/855	◆ 5% 76/1,465	◆ 13% 350/2,677	◆ 23% 966/4,157	▲ 35% 2,043/5,760	▲ 44% 3,155/7,156	■ 59% 4,279/7,239	■ 67% 3,406/5,103	■ 74% 2,164/2,942	43% 16,477/38,037
3.40-3.59	◆ 1% 5/941	◆ 1% 8/897	◆ 4% 64/1,427	◆ 11% 255/2,262	◆ 21% 647/3,071	▲ 31% 1,179/3,862	▲ 37% 1,577/4,218	▲ 48% 1,718/3,555	■ 58% 1,295/2,224	■ 66% 677/1,030	32% 7,425/23,487
3.20-3.39	◆ 1% 8/1,087	◆ 2% 14/857	◆ 3% 41/1,205	◆ 9% 148/1,624	◆ 19% 404/2,113	▲ 28% 629/2,260	▲ 33% 671/2,048	▲ 44% 689/1,583	▲ 48% 419/873	■ 60% 236/393	23% 3,259/14,043
3.00-3.19	◆ 1% 6/974	◆ 2% 14/702	◆ 3% 22/837	◆ 7% 70/1,018	◆ 17% 209/1,213	◆ 24% 291/1,229	▲ 30% 312/1,048	▲ 38% 288/756	▲ 43% 168/387	▲ 43% 65/152	17% 1,445/8,316
2.80-2.99	◆ 1% 4/776	◆ 2% 8/477	◆ 2% 11/494	◆ 6% 34/552	◆ 14% 75/549	▲ 26% 141/544	▲ 31% 128/412	▲ 36% 93/258	▲ 41% 54/132	▲ 26% 13/50	13% 561/4,244
2.60-2.79	◆ <1% 1/538	◆ 1% 3/248	◆ 3% 7/257	◆ 6% 17/272	◆ 12% 28/234	◆ 21% 49/232	◆ 23% 39/170	▲ 30% 31/102	▲ 36% 22/61	▲ 40% 8/20	10% 205/2,134
2.40-2.59	◆ <1% 1/377	◆ 0% 0/141	◆ 2% 2/125	◆ 1% 1/123	◆ 10% 10/98	◆ 19% 17/88	◆ 22% 14/64	▲ 32% 12/37	■ 50% 7/14	◆ 23% 3/13	6% 67/1,080
2.20-2.39	◆ 0% 0/227	◆ 2% 2/85	◆ 2% 1/64	◆ 6% 3/51	◆ 13% 4/31	◆ 11% 4/38	◆ 15% 3/20	--	--	--	4% 19/534
2.00-2.19	◆ 0% 0/101	◆ 0% 0/20	◆ 0% 0/14	◆ 7% 1/15	◆ 13% 2/15	▲ 31% 4/13	--	--	--		6% 11/195
Less than 2.00	◆ 0% 0/58	--	--	--	--	--	--	--	--		2% 2/92
All	1% 53/6,071	2% 88/4,715	4% 298/6,811	12% 1,285/10,716	23% 3,560/15,376	35% 7,422/21,075	46% 11,545/25,332	61% 16,173/26,565	70% 14,998/21,298	80% 14,351/17,979	45% 69,773/155,938

Note: Green (●) = acceptance rates of ≥75%; yellow (■) = acceptance rates of 50%-74%; blue (▲) = acceptance rates of 25%-49%; white (◆) = acceptance rates of 0%-24%. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis. Table summarizes data for applicants who reported MCAT scores from the current exam and undergraduate GPAs (N = 155,938).

Examine Your School's Matriculant and Outcomes Data

- Compare your school's local data to the national data by exploring the MCAT Score/GPA Grid: Student Success Report in AMCAS for Schools at **amcas.aamc.org/admissions**. ↗
- **See page 22 of this guide** for more details about the MCAT Score/GPA Grid: Student Success Report, the MCAT/GPA Thresholds Explorer, and the College and Geographic Context Explorer, all designed to help you use data to empower your admissions decisions.

The MCAT Exam Measures Foundational Concepts and Scientific Reasoning Skills

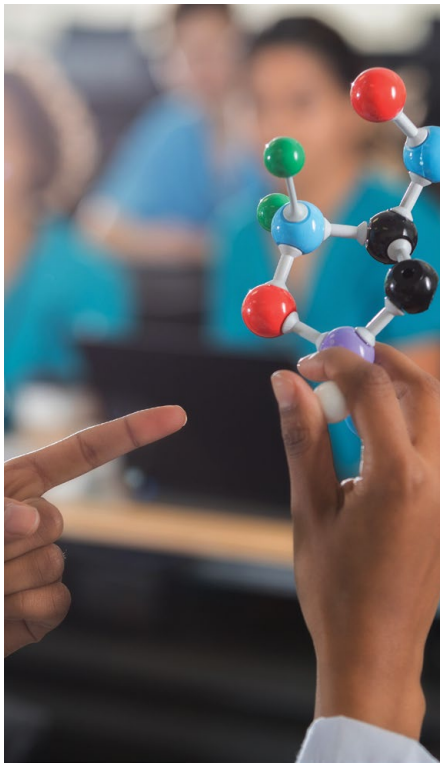
The MCAT exam is designed to help admissions committees select students who are academically prepared for medical school. MCAT scores are among many sources of application data admissions committees use in student selection. The scores help admissions officers interpret grades and other academic data coming from undergraduate institutions that have different curricular emphases and grading standards.

The MCAT exam has four sections:

- **Biological and Biochemical Foundations of Living Systems**
- **Chemical and Physical Foundations of Biological Systems**
- **Psychological, Social, and Biological Foundations of Behavior**
- **Critical Analysis and Reasoning Skills**

The **Biological and Biochemical Foundations of Living Systems**, **Chemical and Physical Foundations of Biological Systems**, and **Psychological, Social, and Biological Foundations of Behavior** sections of the MCAT exam test 10 foundational concepts and four scientific inquiry and reasoning skills that are the building blocks for learning in medical school (Figure 1). These sections ask examinees to combine their knowledge of concepts from courses in first-semester biochemistry, psychology, and sociology and year-long courses in biology, chemistry, and physics with their scientific inquiry and reasoning skills to solve problems presented in passages and test questions. The resulting scores provide information about applicants' readiness to learn in medical school.

The **Critical Analysis and Reasoning Skills** section tests how well examinees comprehend, analyze, and evaluate what they read, draw inferences from text, and apply arguments to new ideas and situations. The passages are drawn from the humanities and social sciences. All the information examinees need to respond to the questions in this section appears in the passages or in the questions themselves. Appendix A provides more detailed descriptions of the concepts and reasoning skills tested by each of the four sections of the exam.



The MCAT exam is designed to help admissions committees select students who are academically prepared for medical school.

FIGURE 1. Foundational concepts and scientific inquiry and reasoning skills tested on the MCAT exam.

Biological and Biochemical Foundations of Living Systems

Foundational Concept 1	Biomolecules have unique properties that determine how they contribute to the structure and function of cells and how they participate in the processes necessary to maintain life.
Foundational Concept 2	Highly organized assemblies of molecules, cells, and organs interact to carry out the functions of living organisms.
Foundational Concept 3	Complex systems of tissues and organs sense the internal and external environments of multicellular organisms and, through integrated functioning, maintain a stable internal environment.

Chemical and Physical Foundations of Biological Systems

Foundational Concept 4	Complex living organisms transport materials, sense their environment, process signals, and respond to changes using processes that can be understood in terms of physical principles.
Foundational Concept 5	The principles that govern chemical interactions and reactions form the basis for a broader understanding of the molecular dynamics of living systems.

Psychological, Social, and Biological Foundations of Behavior

Foundational Concept 6	Biological, psychological, and sociocultural factors influence the ways that individuals perceive, think about, and react to the world.
Foundational Concept 7	Biological, psychological, and sociocultural factors influence behavior and behavior change.
Foundational Concept 8	Psychological, sociocultural, and biological factors influence the way we think about ourselves and others, as well as how we interact with others.
Foundational Concept 9	Cultural and social differences influence well-being.
Foundational Concept 10	Social stratification and access to resources influence well-being.

SCIENTIFIC INQUIRY AND REASONING SKILLS

MCAT questions on these three sections ask examinees to solve problems using the following scientific inquiry and reasoning skills.

Knowledge of Scientific Concepts and Principles

- Demonstrating understanding of scientific concepts and principles.
- Identifying the relationships between closely related concepts.

Scientific Reasoning and Problem Solving

- Reasoning about scientific principles, theories, and models.
- Analyzing and evaluating scientific explanations and predictions.

Reasoning About the Design and Execution of Research

- Demonstrating understanding of important components of scientific research.
- Reasoning about ethical issues in research.

Data-Based and Statistical Reasoning

- Interpreting patterns in data presented in tables, figures, and graphs.
- Reasoning about data and drawing conclusions from them.

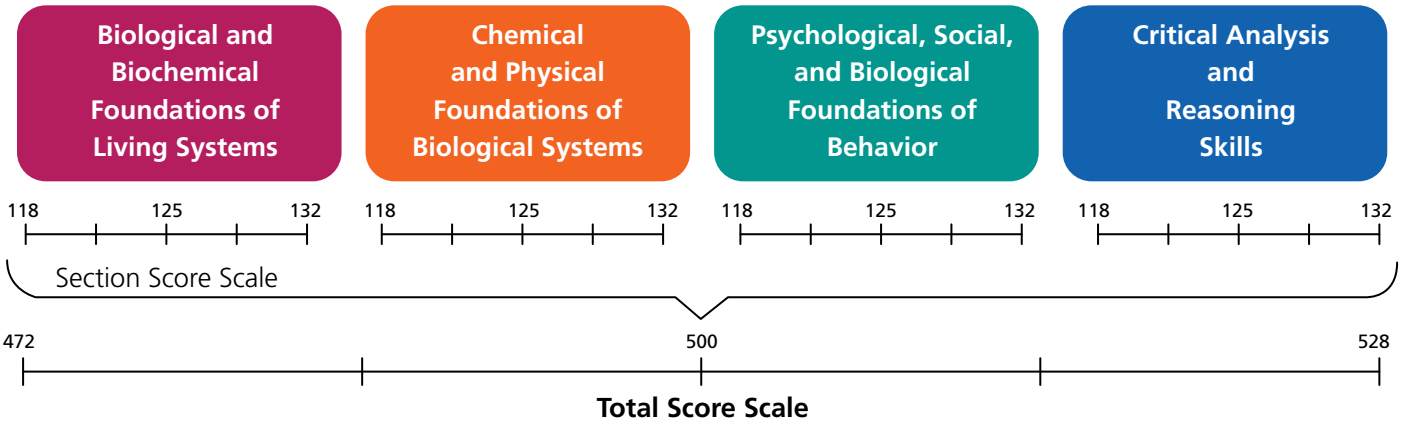
Critical Analysis and Reasoning Skills

Examinees demonstrate their information processing skills in three areas.

Foundations of Comprehension	• Understanding basic components of the text, such as the main idea and conclusions. • Inferring meaning or intent from immediate sentence context.
Reasoning Within the Text	• Integrating distant components of the text to infer an author's message, intent, purpose, belief, position, bias, or assumptions. • Recognizing and evaluating arguments and their structural elements (claims, evidence, support, relations).
Reasoning Beyond the Text	• Applying or extrapolating ideas from the passage to new contexts, situations, possibilities, alternatives, options, or proposals. • Assessing the impact of incorporating new factors, information, or conditions on ideas from the passage.

The MCAT Score Report Summarizes Student Strengths and Weaknesses

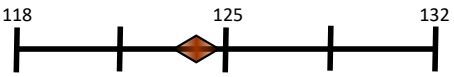
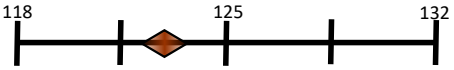
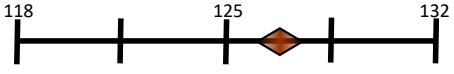
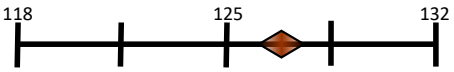
Scores on the four sections of the MCAT exam are reported on numeric scales centered at 125 and ranging from 118 to 132. Scores from the four sections are summed to produce a total score centered at 500 and ranging from 472 to 528.



The MCAT exam is scored on a scale centered at 500.

These score scales are centered on memorable numbers for a reason: research on the MCAT exam suggests that students who enter medical school with scores in the middle range of the scale (and above) succeed in medical school. Research also shows that students with a wide range of MCAT scores passed the Step 1 and Step 2 Clinical Knowledge (CK) exams on the first attempt or ever, progressed to year three on time or with an extra year, and graduated within four or five years.[7,8]

FIGURE 2. Example score report.

Section	(1) Score	(2) Confidence Band	(3) Percentile Rank of Score	(4) Score Profile
Chemical and Physical Foundations of Biological Systems	124	123–125	46%	
Critical Analysis and Reasoning Skills	123	122–124	37%	
Biological and Biochemical Foundations of Living Systems	127	126–128	75%	
Psychological, Social, and Biological Foundations of Behavior	127	126–128	66%	
MCAT Total	**501**	**499–503**	**52%**	

Each examinee's MCAT score report contains four essential components for interpreting MCAT scores: total and section scores, confidence bands and percentile ranks associated with each score, and the score profile (Figure 2).

1. **Total and section scores** show what the examinee scored on each of the four MCAT exam sections, and their total MCAT score.

2. **Confidence bands** around MCAT scores help account for the margin of error in score accuracy and mark the ranges in which the examinee's true section and total scores probably lie. MCAT total scores are reported with a confidence band of plus or minus 2 points, and MCAT section scores are reported with confidence bands of plus or minus 1 point. Adding and subtracting two points to an MCAT total score of 500, for example, defines a confidence band from 498 to 502. The closer two applicants' scores are, the more their confidence bands overlap, and the more likely their scores are to be truly the same. The further apart two scores are, the less their confidence bands overlap, and the more likely they are to truly be different.

3. **Percentile ranks** for MCAT scores show how an individual examinee's scores compare with the scores of other examinees. Specifically, they show the percentages of examinees who received the same or lower scores. For example, the MCAT total score in Figure 8 is 501. It has a percentile rank of 52%. This means 52% of MCAT total scores were equal to or less than 501. MCAT scores always describe applicants' academic readiness in relation to scientific and reasoning competencies, thus MCAT scores have more meaning than percentile ranks. A specific MCAT score will provide the same signal about an applicant's academic readiness no matter when they tested, with whom they tested, or what test forms they took. Percentile ranks simply compare applicants' scores to the pool of examinees they tested with. See current percentile ranks on page 40 and at aamc.org/mcat-percentile-ranks. ↗

4. The **score profile** highlights applicants' strengths and weaknesses across the four sections of the MCAT exam. Because the four section score scales are the same, an applicant's performance can be directly compared across sections. Applicants' strengths and weaknesses on the exam can be considered along with other information about their academic preparation in their application.

Research suggests that students who enter medical school with MCAT scores in the middle range of the scale and above succeed in medical school.

To learn more about what the MCAT exam measures and how it is scored, please view the *A Closer Look* video series:

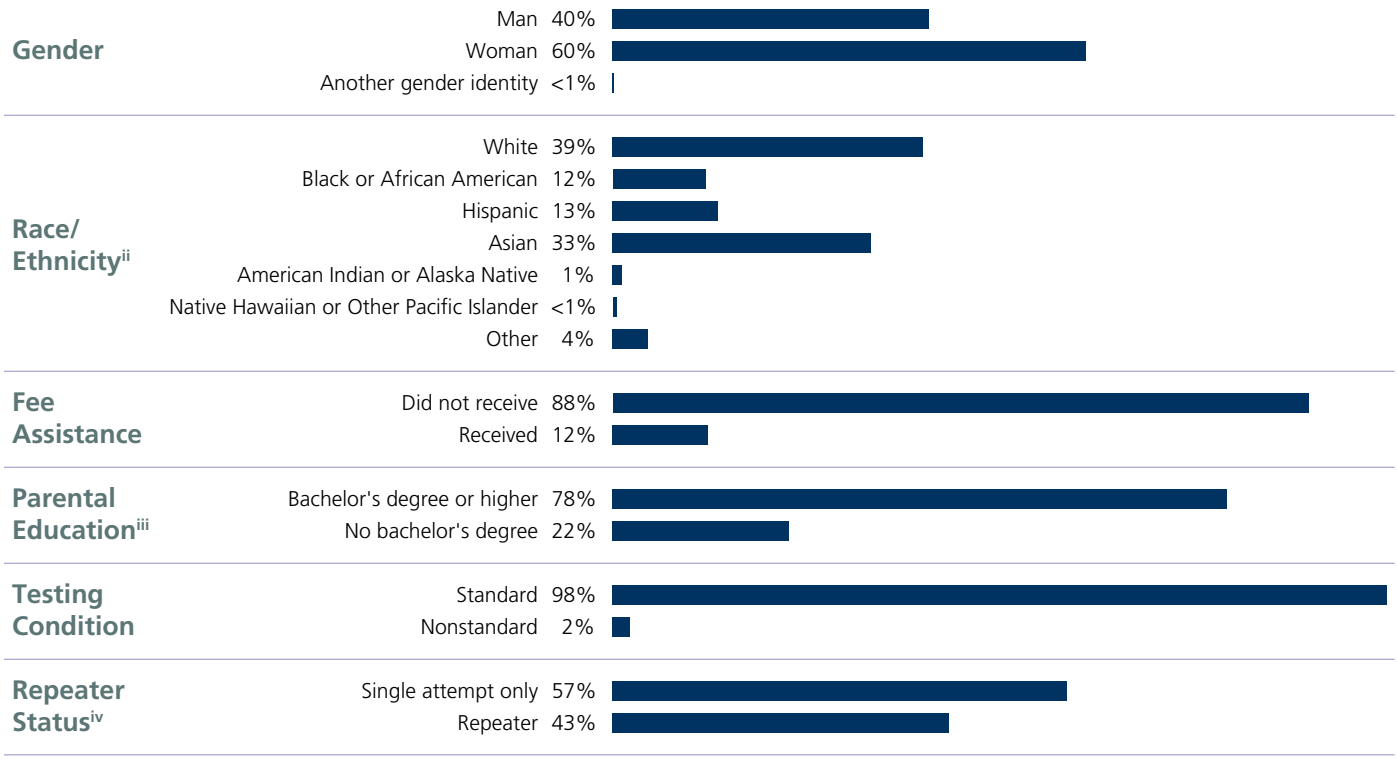
- ***A Closer Look: What Does the MCAT Exam Measure?***
- ***A Closer Look: MCAT Scoring***
- ***A Closer Look: MCAT Confidence Bands***
- ***A Closer Look: MCAT Percentile Ranks***

MCAT Examinees Come From Various Backgrounds

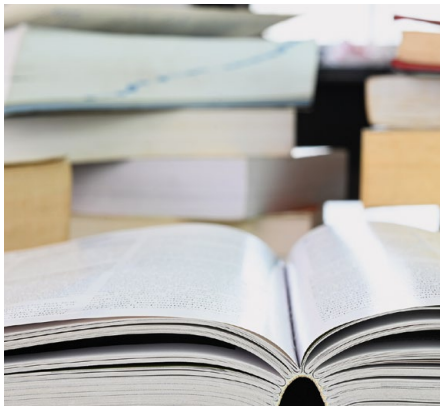
A total of 215,447 examinees with a wide range of demographic characteristics, backgrounds, and experiences took the exam from 2022 to 2024 (Figure 3). Notably, 60% of examinees were women. Thirty-nine percent of examinees identified their race/ethnicity as White, 12% as Black or African American, 13% as Hispanic, and 33% as Asian. Twenty-two percent reported that none of their parents received a bachelor's degree, and 2% tested with nonstandard testing conditions.

Additionally, 12% of examinees were awardees of the AAMC Fee Assistance Program, which assists those who, without financial assistance, would be unable to take the MCAT exam or apply to medical school. The AAMC continually refines the eligibility guidelines of the program. For more information about current Fee Assistance Program eligibility guidelines, please go to aamc.org/feeassistance. ↗

FIGURE 3. MCAT examinees from 2022 to 2024, by demographic characteristics, backgrounds, and experiences (N = 215,447).[i]

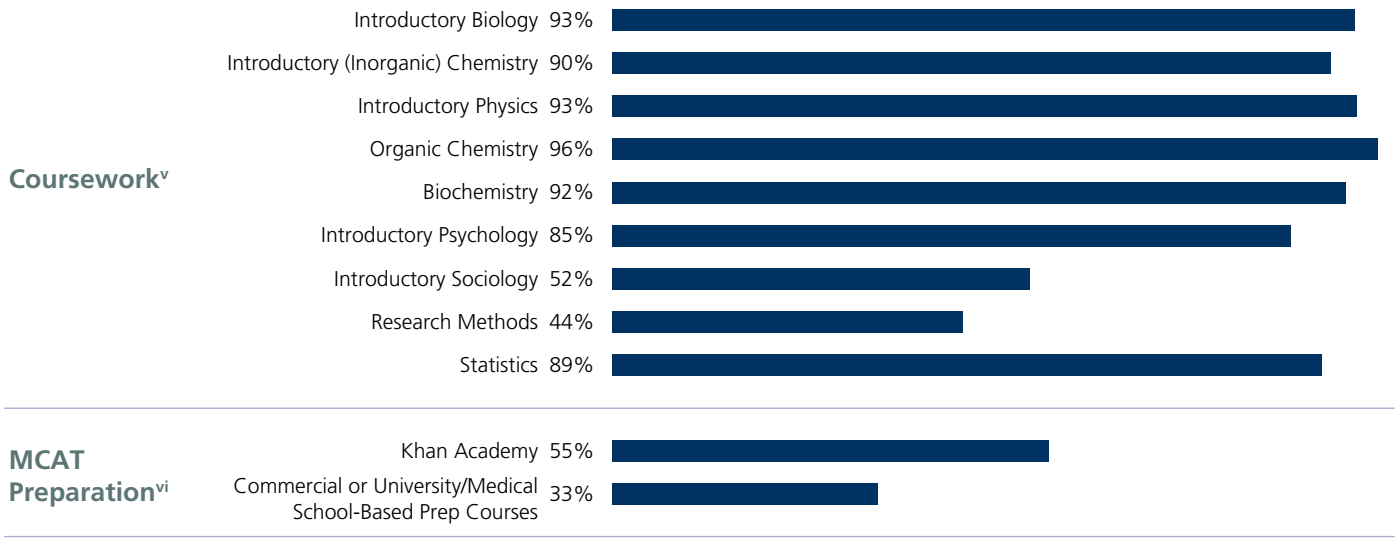


MCAT Examinees Prepare in Different Ways



These examinees also prepare to take the MCAT exam in a variety of ways, both in the classroom and on their own. While specific courses are not required before taking the MCAT exam, almost all examinees have taken biology, chemistry, physics, and biochemistry courses, and most have taken psychology and statistics courses (Figure 4).[9] For more information about this student coursework, access the AAMC Post-MCAT Questionnaire at aamc.org/data/pmq. ↗

FIGURE 4. College coursework and preparation strategies reported by 2022, 2023, and 2024 MCAT examinees (N = 215,447).



The AAMC provides a wide range of free MCAT preparation and practice materials for students, including:

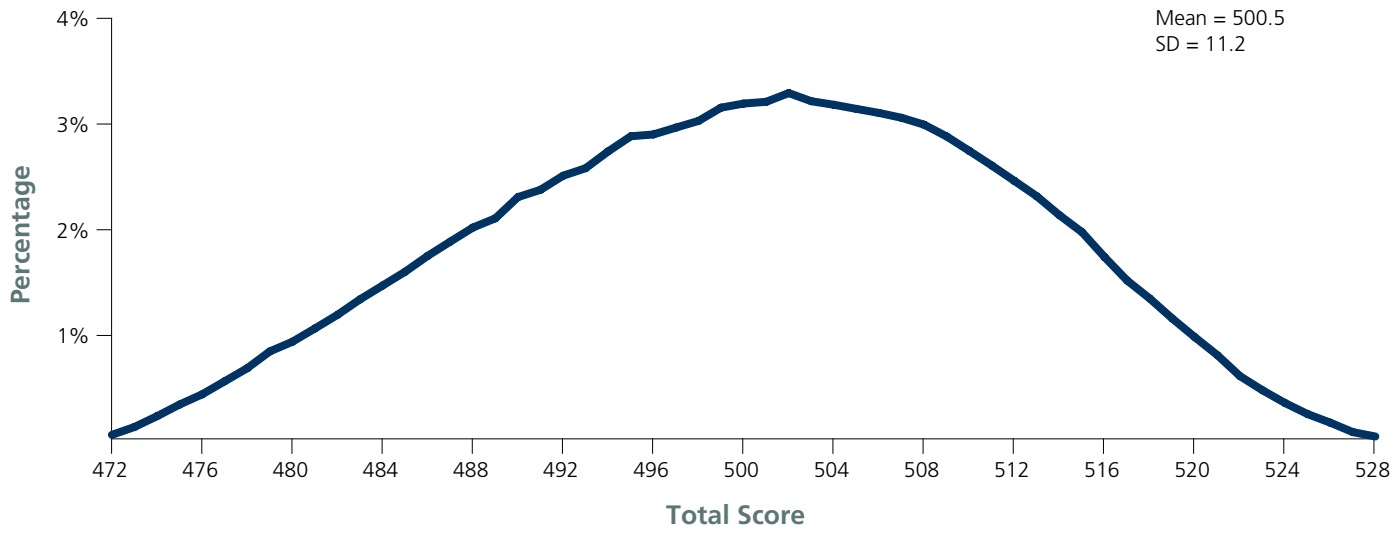
- Two free full-length practice tests
- A guide to create a customized study plan
- The Khan Academy MCAT Collection
- The ***What's on the MCAT Exam?*** content outline course with mapping to open access content review resources

Access the resources and learn more at aamc.org/mcatprep. ↗

MCAT Scores Average Near the Center of the Score Scale

The mean total MCAT score was 500.5 for all 293,882 exams administered in 2022, 2023, and 2024, including all exams from examinees who tested more than once (Figure 5). The mean section scores are shown below.

FIGURE 5. Distribution of MCAT total scores for all exams administered from 2022 to 2024 (N = 293,882).



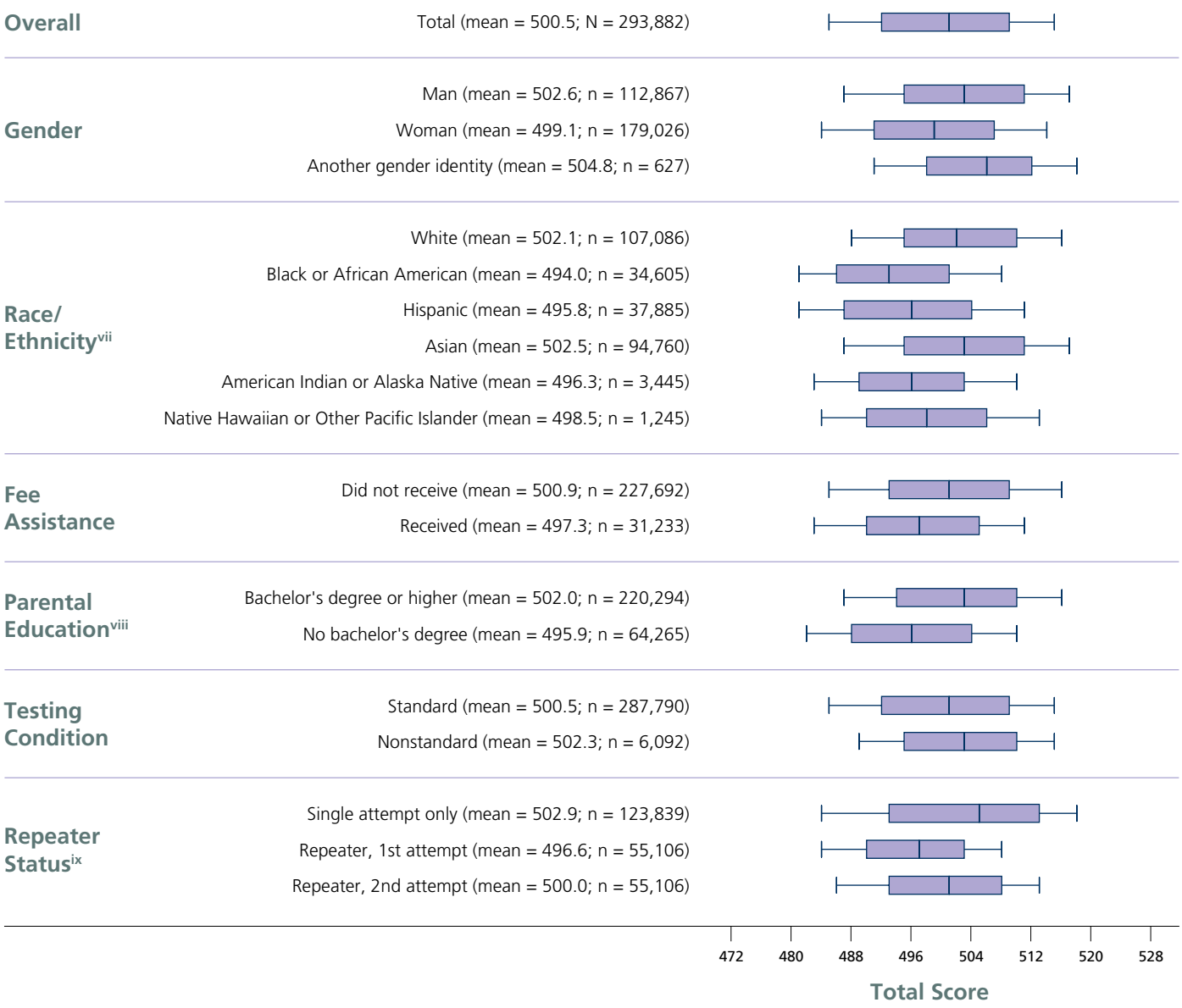
MCAT Section Score Summary for Exams Administered 2022-2024

Section	Mean	(SD)
Biological and Biochemical Foundations of Living Systems	124.9	(3.2)
Chemical and Physical Foundations of Biological Systems	124.6	(2.9)
Psychological, Social, and Biological Foundations of Behavior	125.1	(3.2)
Critical Analysis and Reasoning Skills	125.9	(3.3)
Total Score	**500.5**	**(11.2)**

Across all demographics and backgrounds, there are examinees with scores near the bottom, in the middle, and near the top of the MCAT score scale.

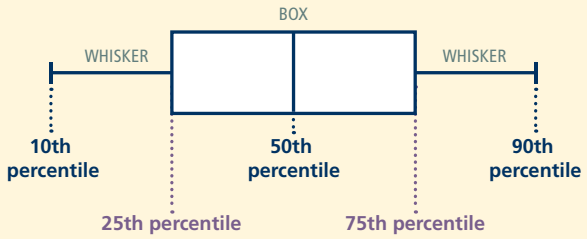
There is variability in the median MCAT total scores for examinees with different demographics, backgrounds, and experiences (Figure 6). However, there is a great deal of overlap in the scores of different groups. The similarities and differences in these data are consistent with those reported in the literature for other admissions tests.[10,11] Research suggests that the differences in MCAT scores for some groups of examinees based on a variety of background characteristics reflect societal differences in income, education, and other factors rather than test bias.[12]

FIGURE 6. MCAT total scores for all exams administered from 2022 to 2024, overall and by demographic characteristics, backgrounds, and experiences (N = 293,882).



READING A BOX-AND-WHISKER PLOT

Box-and-whisker plots show the median score (the 50th-percentile score) along with the 10th-, 25th-, 75th-, and 90th-percentile scores.



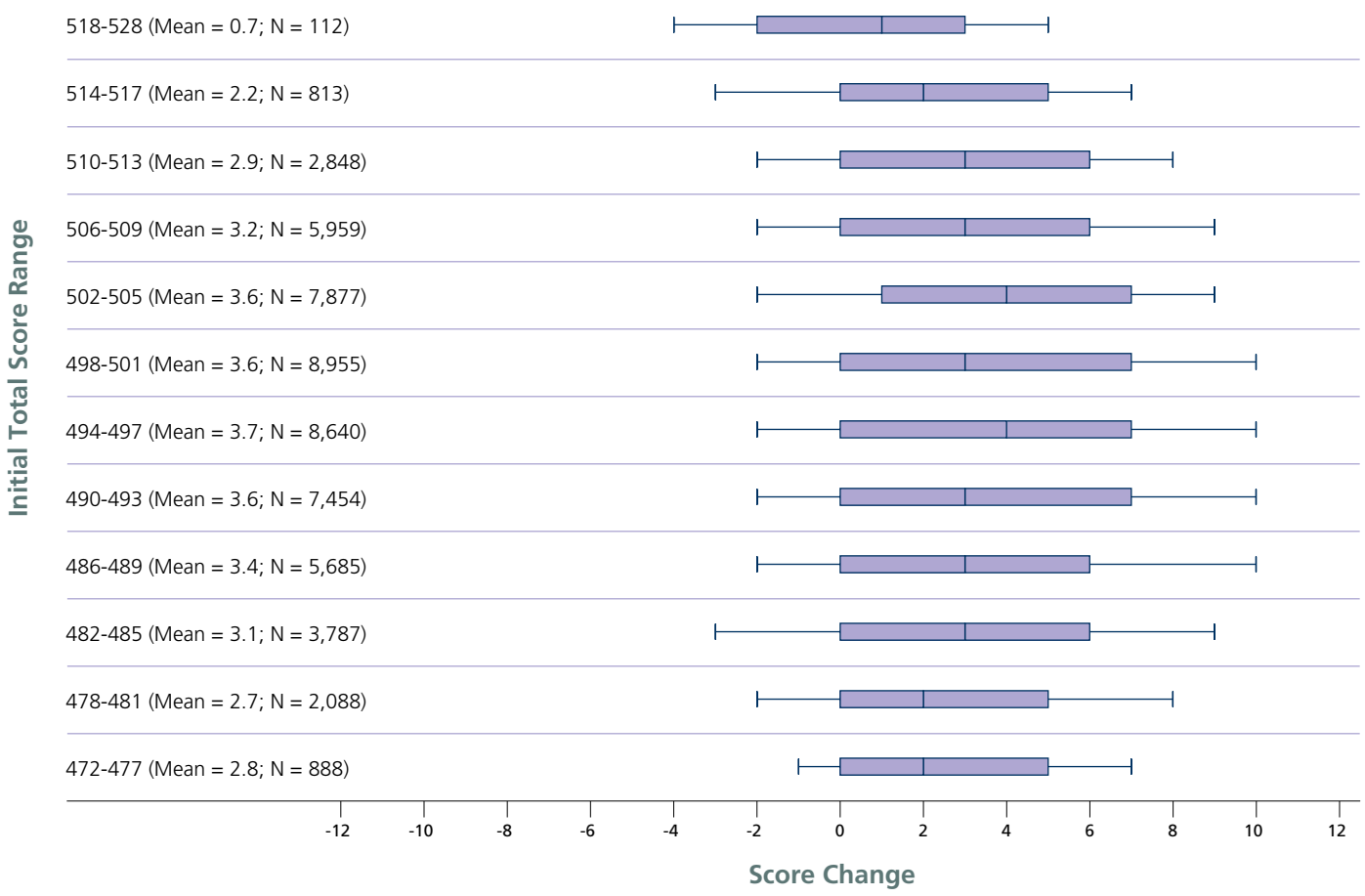
Retesters Tend to Obtain Higher Scores on Their Second Exams

MCAT examinees can test up to three times in one calendar year and four times across two calendar years. An examinee cannot take the exam more than seven times in their lifetime. About 43% of individuals who took the MCAT exam in 2022, 2023, and 2024 were retesters. Among those examinees who retest, the vast majority retest only once.

Analyses to compare score gains obtained between examinees' first attempt and second attempt include scores from examinees who tested for the first and second time in 2022, 2023, or 2024. These score gains or losses on examinees' second attempts relative to their first attempts are shown in Figure 7.

Results show that retesters across a wide range of scores tend to obtain higher scores on their second exams. Depending on an examinee's first-attempt score, the median gain was generally 1 to 3 score points for examinees who tested a second time. It is important to note, however, that there was considerable variation in the magnitude and direction of score changes, with some examinees posting greater increases or decreases.

FIGURE 7. Changes in MCAT total scores between the first and second attempts of MCAT examinees from 2022 to 2024 who retested in the same time period (N = 55,106).



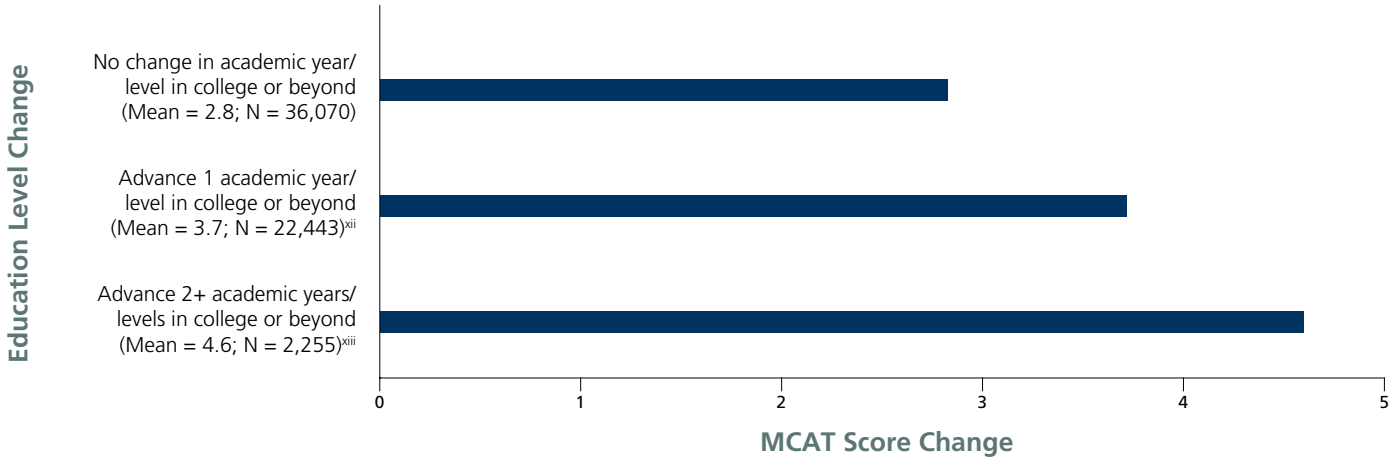
A deeper dive into historical score change trends between retesters' first and second attempts reveals underlying factors, including motivation for testing, time between attempts, and education attainment between attempts. According to AAMC data, approximately 15% of applicants report taking the MCAT before completing their junior year of college, 43% upon completion of their junior year, 34% upon completion of their senior year (graduation), and an additional 8% report attempting the exam upon completion of a postbaccalaureate program or attainment of an advanced degree (e.g., graduate, professional).[13] Some examinees, particularly those testing early in college (or before), may test for the first time before they are fully prepared. When examinees take more time to prepare and gain additional educational experience, they will likely see higher MCAT scores on the second attempt.

Research shows that greater time and/or educational gain between MCAT testing attempts are associated with greater score gains.

As shown in Figure 8, our research indicates that, on average, retesters who advance their formal education (e.g., progressing an academic year during college, completing a postbaccalaureate program beyond college, or obtaining an advanced degree) between MCAT exam attempts exhibit greater score gains than do retesters who reported no advancement in formal education between attempts. Further, retesters who reported educational advancement beyond the next sequential academic year/level show the greatest score gains on average. These trends on retester score gains shed light on the necessity to triangulate any score changes with information in the applicant's transcripts and other information in the application when interpreting retest scores.

It is also important to acknowledge the variability in the data: while retesters with formal educational advancement as a group demonstrate greater score gains on average, some gained more while others did not. Similarly, some retesters without advancement in formal education between attempts achieved greater score gains. Students may prepare for the MCAT exam by taking certain relevant courses or studying on their own without a formal advancement in education. Data not shown in Figure 8 suggest that average score gains on the second attempt are greater with more time between the first and second attempts, which may not always be associated with any formal educational advancement. Ultimately, applicants from a wide range of educational paths and advancement trajectories successfully prepare for medical school academically.

FIGURE 8. Mean MCAT total score change, by education level change between first and second attempts, 2019 to 2023.[x,xi]



Ten Years of MCAT Validity Committee Research

This section presents a summary of the research findings of the MCAT Validity Committee (MVC), a research collaborative that evaluated the validity, fairness, impact, and use of scores of the version of the MCAT exam introduced in 2015. The MVC conducted a longitudinal study that followed two cohorts of medical students who entered medical school in 2016 and 2017 from entry through graduation in five years.

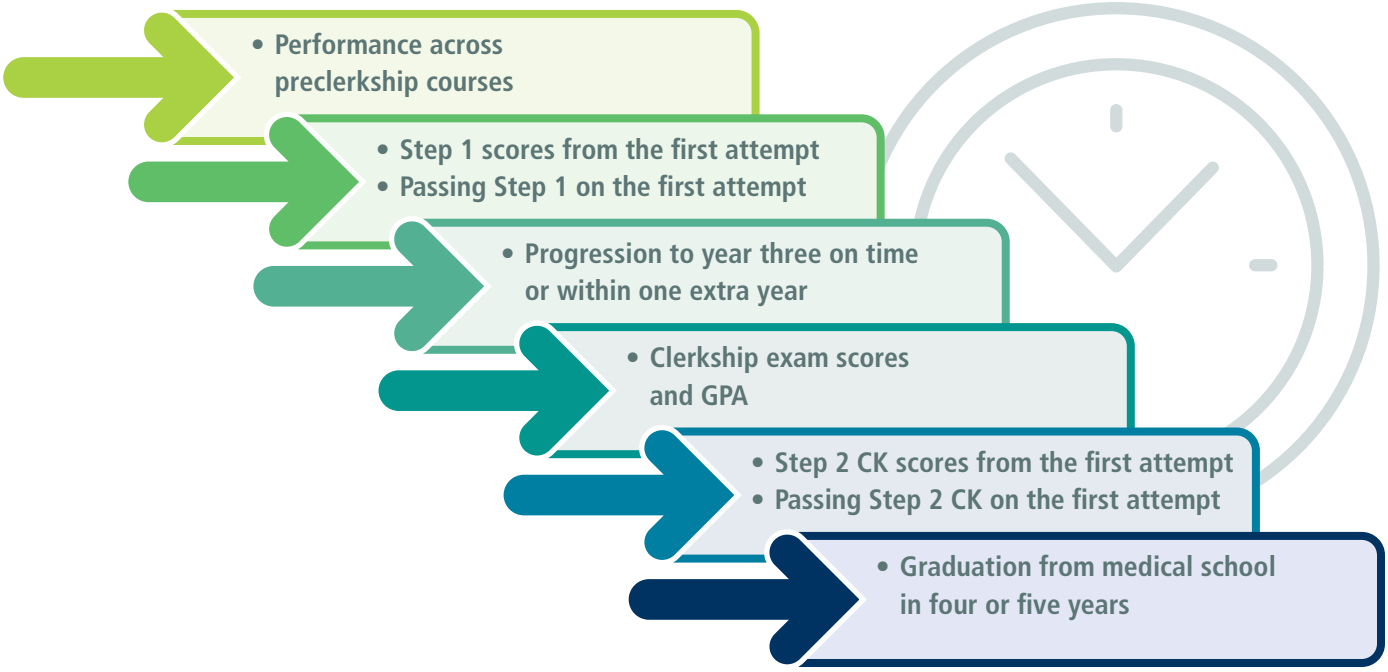
The MVC studied how well undergraduate GPAs and MCAT scores predict medical student performance on the following outcomes (Figure 9). Examining the associations of undergraduate GPAs and MCAT scores with these varied outcomes provides different vantage points about the likelihood of success for applicants with different ranges of undergraduate GPAs and MCAT scores. The results from this study support the key conclusions about the validity of the MCAT exam described on the following pages.

A detailed report of the MCAT Validity Committee's research methodology and results[14] can be found at aamc.org/mcat-validity-report. ↗ These results and other MCAT research published in academic journals are available at aamc.org/mcat-research. ↗

Watch the video *MCAT Validity Committee Mission* to learn more.

Students with a wide range of MCAT scores and undergraduate GPAs ultimately succeed in medical school.

FIGURE 9. Medical Student Success Outcomes Timeline



MCAT Scores Signal Student Readiness From Preclerkship Through Licensure Exams

MVC research showed that MCAT total scores predict student performance in preclerkship, clerkship exams and GPAs, Step 1, and Step 2 CK scores on the first attempt.[7,15] The correlations between MCAT scores and preclerkship, clerkship, Step 1 and Step 2 CK performance were medium to large, with some small cohort differences that are consistent with prior research.[16] That means MCAT total scores provide an important signal of students' readiness for the heavy knowledge acquisition in the first two years of medical school (i.e., preclerkship and Step 1) and in their application of knowledge in their clinical years (i.e., clerkships and Step 2 CK).

Some Students Overperform or Underperform Their MCAT Scores

Although MCAT scores are good predictors of students' preclerkship, clerkship, and licensure exam performance, some students perform better than their MCAT scores predict and some perform less well. Some students admitted with lower MCAT scores outperformed students with higher scores. This is due to variations in student responses to various curricula and other individual factors during the first three years of medical school, and highlights the importance of considering the whole student application during holistic review.

MCAT Scores and GPAs Together Predict Performance Better Than Either Metric Alone

The MVC researched the correlation between medical student performance and MCAT scores alone, undergraduate GPA alone, and both metrics together. Results showed medium to large correlations for MCAT scores and undergraduate GPAs — when used individually — with preclerkship performance, clerkship exam scores, clerkship GPAs, and Step 2 CK scores. For each outcome, correlations were larger for MCAT scores alone than for undergraduate GPAs alone. Most importantly, correlations were highest for MCAT scores and undergraduate GPAs used together. This shows that MCAT scores and undergraduate GPAs measure different aspects of student academic preparedness, and that the two measures may be able to compensate for one another. It also shows that using MCAT scores and undergraduate GPAs together to assess academic readiness provides a better prediction of future performance in medical school and on licensure exams than using either academic metric alone.[7]

Watch the video *Predicting Academic Performance* to learn more.

Omitting either MCAT scores or undergraduate GPAs when evaluating applicants can result in capable students being overlooked.

Putting MCAT Scores in Context

When evaluating students' academic readiness for medical school, MCAT scores should always be considered in the context of other important information related to applicants' coursework, GPAs, and other academic experiences. This practice is foundational to holistic review and is a recommended best practice by the AAMC and professional testing standards.[17] A careful review of an applicant's transcripts, experiences, and other information in their application will likely add insight and clues for putting an applicant's MCAT scores and undergraduate GPAs in context.

Both undergraduate GPAs and MCAT scores provide important information about applicants' academic strengths and weaknesses. Higher undergraduate GPAs can compensate for more modest MCAT total scores when predicting applicants' future performance in medical school. Similarly, higher MCAT scores can sometimes compensate for more modest undergraduate GPAs. Omitting either metric in evaluating applicants' academic preparedness for medical school can result in capable applicants being overlooked or challenges to schools' abilities to provide students with academic support.[8]

Experiences in Early Medical School Impact Student Performance on Later Milestones

While MCAT scores are a strong predictor of a student's academic preparation for medical school, it is important to remember that the student's experience with the medical school curriculum, learning environment, access to student support, and personal circumstances will likely impact later outcomes such as time to graduation or residency match.[7,15] Just as students enter medical school with a variety of personal circumstances and responsibilities, medical schools vary in their approaches to curricula and to supporting and evaluating student learning. Variability across schools in the relationship between MCAT scores and student performance highlights the importance of studying local validity data so schools can draw conclusions about the ways MCAT scores predict their students' performance in their local environment.

MCAT scores should always be considered in the context of other important information related to applicants' coursework, GPAs, and other academic experiences.

Consider Students' MCAT Scores in Their Life Context

Schools that admit more students with mid-range MCAT scores have classes with greater percentages of first-generation college graduates and students who grew up in a rural or medically underserved area, were non-native English speakers, and whose parents worked in a "service, clerical, skilled, or unskilled" occupation.[8] When considering a wider range of MCAT scores in the admissions process, it is important to think about the context of the economic and educational opportunities students have had in their lives. These factors shape a student's trajectory through high school and college, and they can also contribute to gaps in undergraduate GPA and on standardized tests.[18]

Watch the video Admissions Decision-Making to learn more.

Medical Schools Admit Students According to Their Local Context and Available Resources

Medical schools have a wide variety of admissions processes based on their individual demands, curricula, and available resources. This local context drives how schools use MCAT scores in student selection. Research shows that schools have a wide range of MCAT/GPA thresholds and number and type of admitted students. Schools are widely interested in data to understand applicants' likelihood for success, their academic risks, and their need for support in a local context. Research also shows that internal pressures on schools regarding student success are the biggest drivers for considering higher MCAT scores during the admissions process.[8] Different students require different levels of academic, social, and personal support to succeed, and schools are focused on creating and maintaining a supportive learning environment to support all students.[19]

Use of MCAT Preparation Resources Varies Across Demographic Groups

Across all demographic groups and backgrounds, there are examinees who score in the bottom, middle, and top third of the MCAT score scale. However, there are differences in the average MCAT scores of examinees from underrepresented versus well-represented backgrounds. Research shows that these differences are connected to differences in educational and economic opportunities.[16] Research also shows that examinees from lower-resourced backgrounds report using free and low-cost MCAT prep resources at lower rates than their more resourced peers.[20] However, among students from lower socioeconomic status backgrounds, students with higher MCAT scores are more likely to use effective test prep strategies and MCAT prep resources compared to those with lower MCAT scores.[21] The AAMC is continually working to help students understand how to prepare for the MCAT exam and to improve access to free and low-cost MCAT resources for both students and prehealth advisors.[22]

Watch the video *Diversity, Fairness, and Academic Preparation* to learn more.

MCAT Data Toolkit

Data do not make decisions. People do. Data provide useful insights and help answer questions to empower data-informed decisions in the admissions process.

You have access to a variety of data tools to help you unpack your school's local data and gain insights about your school's admissions process. You can use these data to answer questions about your applicants and the students you admit, explore potential changes and new practices in your admissions process, and track progress over time.

To access these tools, log in to AMCAS for Schools at amcas.aamc.org/admissions. ↗

From the top menu bar, select AMCAS Reports, then Integrated Admissions Reports. For a demonstration of how to best use these tools for your school or for help with access, please email mcatadmissions@aamc.org. ↗

Study Your Applicant Pool

- Who are your applicants?
- Where do they come from?
- How well do your applicants align with your mission?
- Are your recruitment efforts and strategies yielding the applicants you are looking for?

Evaluate Your Admissions Process and Practices

- Who are you accepting from your applicant pool?
- Is your admissions process leading to outcomes that are aligned with your mission?
- Are you optimizing your resources to yield the applicants you want to bring to your school?

Track Your Students' Performance

- How do the students you matriculate perform throughout the medical school journey?
- Are the students you matriculate academically prepared for your curriculum?
- Are you investing adequate resources to support student success?

Tools You Can Use

College and Geographic Context Explorer

A map-based tool that shows important information about the regions and institutions your applicants come from. It combines AAMC, U.S. Department of Education, and U.S. Census data to help you better understand the undergraduate and geographic context of applicants during the recruitment and admissions process.

MCAT/GPA Thresholds Explorer

A scenario-planning tool that helps you analyze how different MCAT score and GPA cutoffs would impact your applicant pool. By examining your school's past admissions data, you can see which types of applicants would be included or excluded if you were to change your MCAT/GPA thresholds.

MCAT Score/GPA Grid: Student Success Report

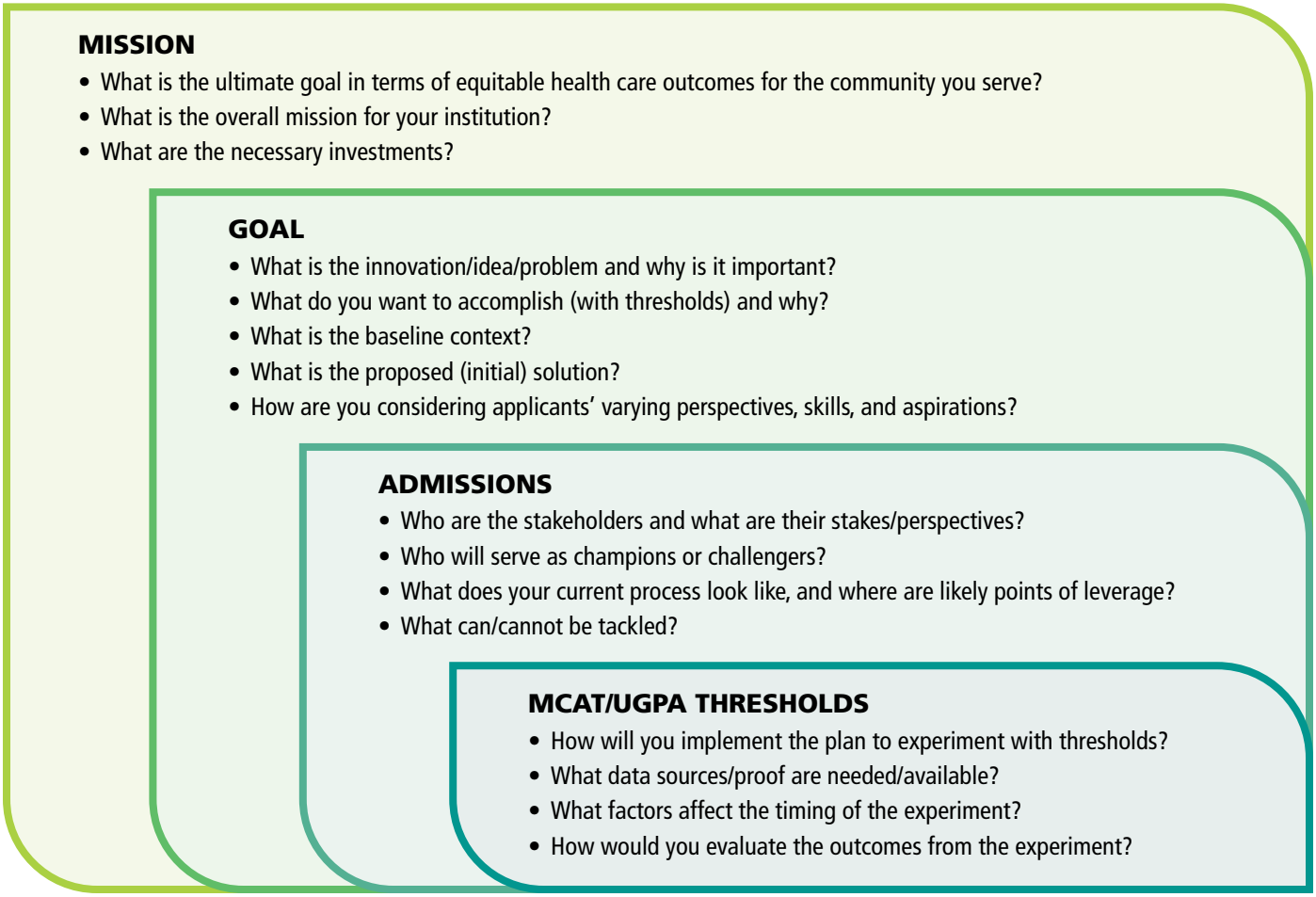
A customizable report showing how students with different MCAT scores and GPAs performed at your school. It tracks student success from USMLE Step 1 through graduation, allowing you to examine patterns between academic metrics and student outcomes over time.

Exploring MCAT/GPA Thresholds

The application of MCAT/GPA thresholds during the admissions process remains a subject of ongoing scrutiny and discussion. A universally "correct" MCAT/GPA benchmark does not exist, as it is a complex issue with many factors unique to your local context. Considerations include the impact of MCAT/GPA thresholds on applicant quality, alignment with the institutional mission, stakeholder perceptions, acceptable academic risk, and availability of student support resources. This issue requires a nuanced approach, balancing various elements unique to your institution's environment. The self-reflection questions in Figure 10 were created by a cohort of schools who participated in the MCAT Learning Lab to explore MCAT/GPA thresholds within various local contexts. These questions may be a useful starting point as you begin to examine your school's thresholds.

Watch three schools from the MCAT Learning Lab discuss their exploration of MCAT/GPA thresholds.

FIGURE 10. Self-Reflection Questions for Exploring MCAT/GPA Thresholds



National MCAT/GPA Grids by Student Success Outcomes

These pages show national data on medical student success outcomes from the most recent cohorts available, by total MCAT score and total undergraduate GPA. These tables, as well as tables featuring biology, chemistry, physics, and math (BCPM) GPA, are available at aamc.org/mcat-data. ↗

Passing Step 1 on the First Attempt

Table 2 illustrates the percentage and number of 2020, 2021, and 2022 matriculants who passed the Step 1 exam on the first attempt, by MCAT total scores and GPAs. Figure 11 shows the median Step 1 pass rates by ranges of MCAT total scores. The percentages show that the pass rate was high for many combinations of undergraduate GPAs and MCAT scores, although higher undergraduate GPAs and MCAT scores are generally associated with slightly higher pass rates. Overall, 92% of 2020, 2021, and 2022 matriculants who took the Step 1 exam passed it on the first attempt.

FIGURE 11. Median Step 1 pass rates, by MCAT total score (N = 59,240).[xiv]

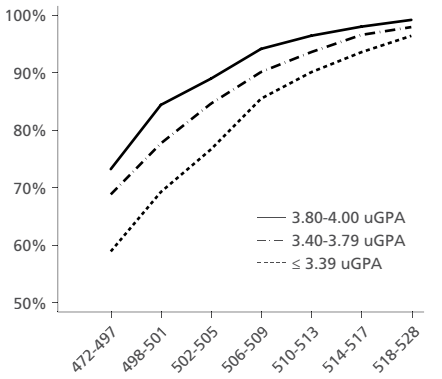


TABLE 2. Passing Step 1 on the First Attempt: 2020, 2021, and 2022 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	▲ 74% 28/38	▲ 76% 202/267	■ 83% 709/857	■ 88% 1,949/2,207	● 93% 4,194/4,486	● 96% 6,893/7,185	● 98% 7,293/7,473	● >99% 8,190/8,268	96% 29,464/30,790
3.60-3.79	--	--	◆ 67% 30/45	◆ 67% 175/262	▲ 77% 584/755	■ 84% 1,359/1,611	● 90% 2,508/2,794	● 94% 3,930/4,201	● 97% 3,324/3,444	● 98% 2,144/2,197	92% 14,060/15,315
3.40-3.59	--	--	◆ 52% 14/27	◆ 66% 135/204	▲ 73% 393/536	■ 82% 854/1,039	■ 89% 1,438/1,623	● 93% 1,816/1,962	● 95% 1,305/1,373	● 97% 704/728	89% 6,664/7,507
3.20-3.39	--	--	◆ 42% 11/26	◆ 59% 77/130	◆ 68% 225/330	▲ 74% 441/592	■ 84% 647/771	■ 87% 719/823	● 93% 482/519	● 97% 228/236	82% 2,834/3,436
3.00-3.19	--	--	▲ 75% 9/12	◆ 56% 35/62	▲ 71% 117/164	▲ 75% 209/280	▲ 79% 285/359	■ 89% 266/299	● 95% 177/187	● 94% 92/98	81% 1,193/1,466
2.80-2.99	--	--	--	◆ 56% 10/18	◆ 63% 37/59	▲ 74% 90/122	■ 87% 93/107	● 92% 79/86	● 94% 58/62	● 96% 24/25	81% 394/487
2.60-2.79		--	--	◆ 54% 7/13	◆ 57% 13/23	◆ 64% 23/36	■ 88% 35/40	■ 85% 29/34	● 94% 16/17	--	76% 133/175
2.40-2.59			--	--	--	▲ 70% 7/10	■ 86% 12/14	--	--	--	72% 31/43
2.20-2.39				--	--	--	--	--			61% 11/18
2.00-2.19								--	--		--
Less than 2.00											
All	55% 11/20	55% 16/29	61% 94/155	67% 642/959	76% 2,082/2,736	84% 4,935/5,900	90% 9,216/10,199	94% 13,739/14,599	97% 12,659/13,080	99% 11,392/11,563	92% 54,786/59,240

Note: Green (●) = pass rates of 90%-100%; yellow (■) = pass rates of 80%-89%; blue (▲) = pass rates of 70%-79%; white (◆) = pass rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis.

Passing Step 1 Ever

Table 3 illustrates the percentage and number of 2020, 2021, and 2022 matriculants who passed the Step 1 exam eventually, by MCAT total scores and GPAs. Figure 12 shows the median Step 1 eventual pass rates by ranges of MCAT total scores.

The percentages show that the eventual pass rate was high for many combinations of undergraduate GPAs and MCAT scores, although higher undergraduate GPAs and MCAT scores are generally associated with slightly higher pass rates.

Overall, 97% of 2020, 2021, and 2022 matriculants who took the Step 1 exam passed it eventually.

FIGURE 12. Median Step 1 ever pass rates, by MCAT total score (N = 59,240).[xiv]

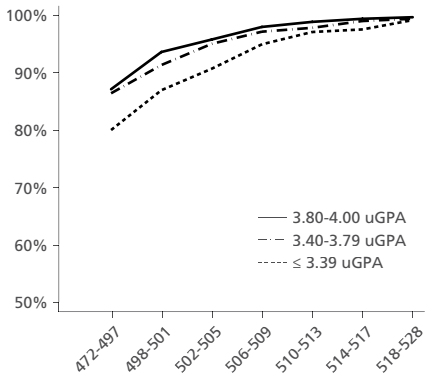


TABLE 3. Passing Step 1 Ever: 2020, 2021, and 2022 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	■ 87% 33/38	■ 88% 235/267	● 93% 801/857	● 95% 2,106/2,207	● 98% 4,386/4,486	● 99% 7,087/7,185	● >99% 7,409/7,473	● >99% 8,232/8,268	98% 30,298/30,790
3.60-3.79	--	--	■ 84% 38/45	■ 87% 228/262	● 91% 689/755	● 95% 1,533/1,611	● 97% 2,704/2,794	● 98% 4,111/4,201	● >99% 3,410/3,444	● >99% 2,176/2,197	97% 14,895/15,315
3.40-3.59	--	--	▲ 74% 20/27	■ 84% 172/204	■ 89% 475/536	● 93% 964/1,039	● 97% 1,568/1,623	● 97% 1,911/1,962	● 98% 1,344/1,373	● >99% 724/728	96% 7,188/7,507
3.20-3.39	--	--	◆ 69% 18/26	▲ 79% 103/130	■ 86% 285/330	● 90% 533/592	● 94% 722/771	● 96% 786/823	● 97% 505/519	● 98% 232/236	93% 3,192/3,436
3.00-3.19	--	--	▲ 75% 9/12	▲ 79% 49/62	■ 88% 144/164	● 90% 253/280	● 92% 329/359	● 97% 290/299	● 97% 181/187	● 99% 97/98	92% 1,356/1,466
2.80-2.99	--	--	--	◆ 67% 12/18	■ 81% 48/59	● 90% 110/122	● 98% 105/107	● 98% 84/86	● 98% 61/62	● 100% 25/25	92% 449/487
2.60-2.79		--	--	● 92% 12/13	■ 83% 19/23	■ 89% 32/36	● 95% 38/40	● 97% 33/34	● 100% 17/17	--	93% 163/175
2.40-2.59			--	--	--	■ 80% 8/10	● 100% 14/14	--	--	--	88% 38/43
2.20-2.39				--	--	--	--	--			78% 14/18
2.00-2.19								--	--		--
Less than 2.00											
All	90% 18/20	83% 24/29	78% 121/155	85% 813/959	90% 2,469/2,736	94% 5,542/5,900	97% 9,870/10,199	98% 14,310/14,599	99% 12,932/13,080	>99% 11,497/11,563	97% 57,596/59,240

Note: Green (●) = pass rates of 90%-100%; yellow (■) = pass rates of 80%-89%; blue (▲) = pass rates of 70%-79%; white (◆) = pass rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis.

Passing Step 2 CK on the First Attempt

Table 4 illustrates the percentage and number of 2019, 2020, and 2021 matriculants who passed the Step 2 CK exam on the first attempt, by MCAT total scores and GPAs. Figure 13 shows the median Step 2 CK pass rates by ranges of MCAT total scores.

The percentages show that the pass rate was high for many combinations of undergraduate GPAs and MCAT scores, although higher undergraduate GPAs and MCAT scores are generally associated with slightly higher pass rates. Overall, 99% of 2019, 2020, and 2021 matriculants who took the Step 2 CK exam passed it on the first attempt.

FIGURE 13. Median Step 2 CK pass rates, by MCAT total score (N = 56,507).[xiv]

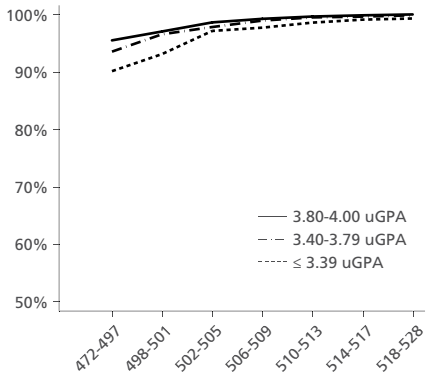


TABLE 4. Passing Step 2 CK on the First Attempt: 2019, 2020, and 2021 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	● 94% 31/33	● 97% 201/208	● 96% 779/808	● 99% 2,020/2,048	● >99% 4,434/4,474	● >99% 6,698/6,730	● >99% 6,799/6,819	● >99% 7,479/7,486	>99% 28,443/28,609
3.60-3.79	--	--	■ 89% 33/37	● 95% 180/190	● 96% 658/685	● 98% 1,518/1,555	● 99% 2,874/2,905	● >99% 4,265/4,290	● >99% 3,457/3,472	● >99% 2,150/2,156	99% 15,141/15,298
3.40-3.59	--	--	● 96% 27/28	● 91% 146/161	● 95% 458/480	● 97% 929/955	● 98% 1,603/1,628	● 99% 2,018/2,039	● >99% 1,390/1,401	● >99% 761/764	98% 7,336/7,463
3.20-3.39	--	--	■ 85% 11/13	● 93% 79/85	● 94% 258/275	● 97% 479/495	● 98% 680/697	● 98% 789/804	● 99% 524/530	● >99% 241/243	97% 3,066/3,148
3.00-3.19	--	--	--	■ 88% 44/50	● 94% 157/167	● 97% 233/241	● 97% 310/321	● 98% 283/288	● 100% 174/174	● 98% 96/98	97% 1,311/1,353
2.80-2.99		--	--	● 91% 10/11	■ 89% 49/55	● 91% 91/100	● 97% 101/104	● 100% 82/82	● 98% 49/50	● 100% 29/29	95% 416/436
2.60-2.79		--	--	--	▲ 75% 15/20	● 100% 30/30	■ 89% 32/36	● 97% 29/30	● 100% 12/12	--	91% 130/143
2.40-2.59			--	--	--	--	■ 83% 15/18	--	--	--	86% 36/42
2.20-2.39					--	--	--	--	--		100% 12/12
2.00-2.19								--	--		--
Less than 2.00		--									--
All	85% 11/13	67% 16/24	92% 115/125	94% 666/711	95% 2,380/2,497	98% 5,306/5,430	99% 10,055/10,189	>99% 14,171/14,271	>99% 12,411/12,464	>99% 10,763/10,783	99% 55,894/56,507

Note: Green (●) = pass rates of 90%-100%; yellow (■) = pass rates of 80%-89%; blue (▲) = pass rates of 70%-79%; white (◆) = pass rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis.

Passing Step 2 CK Ever

Table 5 illustrates the percentage and number of 2019, 2020, and 2021 matriculants who passed the Step 2 CK exam eventually, by MCAT total scores and GPAs. Figure 14 shows the median Step 2 CK eventual pass rates by ranges of MCAT total scores.

The percentages show that the eventual pass rate was high for many combinations of undergraduate GPAs and MCAT scores, although higher undergraduate GPAs and MCAT scores are generally associated with slightly higher pass rates.

Overall, more than 99% of 2019, 2020, and 2021 matriculants who took the Step 2 CK exam passed it eventually.

FIGURE 14. Median Step 2 CK ever pass rates, by MCAT total score (N = 56,507).[xiv]

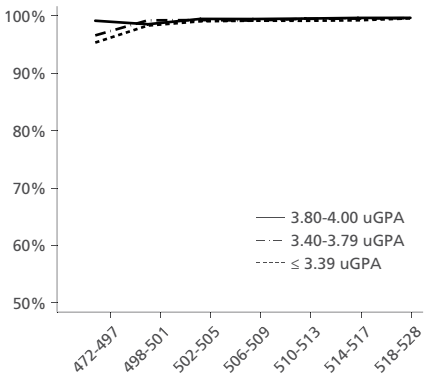


TABLE 5. Passing Step 2 CK Ever: 2019, 2020, and 2021 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	● 100% 33/33	● >99% 206/208	● 99% 799/808	● >99% 2,041/2,048	● >99% 4,459/4,474	● >99% 6,716/6,730	● >99% 6,810/6,819	● >99% 7,481/7,486	>99% 28,548/28,609
3.60-3.79	--	--	● 95% 35/37	● 98% 186/190	● >99% 681/685	● >99% 1,547/1,555	● >99% 2,894/2,905	● >99% 4,279/4,290	● >99% 3,465/3,472	● >99% 2,153/2,156	>99% 15,246/15,298
3.40-3.59	--	--	● 96% 27/28	● 97% 156/161	● >99% 477/480	● >99% 948/955	● >99% 1,618/1,628	● >99% 2,033/2,039	● >99% 1,397/1,401	● >99% 763/764	>99% 7,424/7,463
3.20-3.39	--	--	● 92% 12/13	● 95% 81/85	● 98% 270/275	● >99% 492/495	● >99% 692/697	● >99% 797/804	● >99% 528/530	● >99% 242/243	>99% 3,120/3,148
3.00-3.19	--	--	--	● 96% 48/50	● >99% 166/167	● >99% 240/241	● >99% 318/321	● >99% 287/288	● 100% 174/174	● 100% 98/98	>99% 1,345/1,353
2.80-2.99		--	--	● 91% 10/11	● 96% 53/55	● 98% 98/100	● >99% 103/104	● 100% 82/82	● 100% 50/50	● 100% 29/29	99% 430/436
2.60-2.79		--	--	--	● 100% 20/20	● 100% 30/30	● 100% 36/36	● 100% 30/30	● 100% 12/12	--	>99% 142/143
2.40-2.59			--	--	--	--	■ 89% 16/18	--	--	--	95% 40/42
2.20-2.39					--	--	--	--	--		100% 12/12
2.00-2.19								--	--		--
Less than 2.00		--									--
All	85% 11/13	88% 21/24	97% 121/125	97% 693/711	>99% 2,473/2,497	>99% 5,402/5,430	>99% 10,142/10,189	>99% 14,232/14,271	>99% 12,442/12,464	>99% 10,773/10,783	>99% 56,310/56,507

Note: Green (●) = pass rates of 90%-100%; yellow (■) = pass rates of 80%-89%; blue (▲) = pass rates of 70%-79%; white (◆) = pass rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis.

On-Time Progression to Year Three

Table 6 illustrates the percentage and number of 2019, 2020, and 2021 matriculants who progressed to year three on time, by MCAT total scores and GPAs. Figure 15 shows the median rates of on-time progression to year three by ranges of MCAT total scores.

The percentages show the positive relationship between MCAT scores and on-time progression to year three. The last column shows the same relationship for undergraduate GPAs and on-time progression.

Overall, 93% of 2019, 2020, and 2021 matriculants progressed to year three on time, including those who entered with modest MCAT scores.

FIGURE 15. Median rates of on-time progression to year three, by MCAT total score (N = 58,636).[xiv]

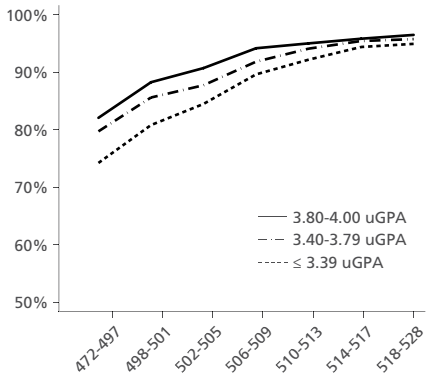


TABLE 6. On-Time Progression to Year Three: 2019, 2020, and 2021 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	■ 88% 37/42	■ 82% 233/283	■ 89% 798/900	● 91% 2,009/2,202	● 94% 4,284/4,541	● 95% 6,399/6,726	● 96% 6,393/6,640	● 97% 6,905/7,110	95% 27,063/28,453
3.60-3.79	--	--	▲ 72% 38/53	■ 81% 219/272	■ 86% 726/847	■ 88% 1,523/1,728	● 92% 2,839/3,085	● 95% 4,106/4,331	● 96% 3,293/3,431	● 96% 2,057/2,151	93% 14,811/15,908
3.40-3.59	--	▲ 70% 7/10	■ 81% 29/36	▲ 75% 176/236	■ 84% 523/623	■ 85% 947/1,115	● 91% 1,620/1,772	● 93% 1,990/2,132	● 95% 1,364/1,437	● 96% 733/766	91% 7,394/8,136
3.20-3.39	--	--	▲ 73% 22/30	▲ 76% 110/145	■ 81% 307/378	■ 84% 530/630	● 90% 730/808	● 93% 799/857	● 94% 526/558	● 95% 238/251	89% 3,270/3,669
3.00-3.19	--	--	■ 80% 12/15	▲ 78% 65/83	■ 82% 183/222	■ 86% 271/315	■ 88% 334/378	● 92% 296/322	● 94% 178/189	● 95% 100/105	88% 1,446/1,636
2.80-2.99	--	--	--	▲ 77% 17/22	▲ 73% 60/82	■ 81% 104/129	■ 87% 110/126	■ 86% 87/101	● 95% 53/56	■ 88% 30/34	84% 471/563
2.60-2.79		--	--	◆ 43% 6/14	◆ 50% 16/32	■ 80% 32/40	■ 83% 40/48	● 91% 29/32	■ 88% 14/16	--	76% 148/195
2.40-2.59			--	--	--	--	■ 89% 17/19	--	--	--	88% 45/51
2.20-2.39				--	--	--	--	--	--		62% 13/21
2.00-2.19								--	--		--
Less than 2.00		--									--
All	71% 17/24	81% 35/43	77% 145/189	78% 832/1,063	85% 2,620/3,094	88% 5,424/6,168	93% 9,979/10,783	95% 13,714/14,512	96% 11,828/12,335	97% 10,070/10,425	93% 54,664/58,636

Note: Green (●) = progression rates of 90%-100%; yellow (■) = progression rates of 80%-89%; blue (▲) = progression rates of 70%-79%; white (◆) = progression rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis. Students who entered medical school with advanced standing from medical, graduate, or other programs; were enrolled in joint programs (e.g., MD-PhD) at the time of matriculation or graduation; participated in special research/nonresearch studies; or are deceased are not included in this table.

Progression to Year Three With an Extra Year

Table 7 illustrates the percentage and number of 2019, 2020, and 2021 matriculants who progressed to year three with an extra year, by MCAT total scores and GPAs. Figure 16 shows the median rates of progression to year three with an extra year by ranges of MCAT total scores.

The percentages show the positive relationship between MCAT scores and progression to year three with an extra year. The last column shows the same relationship for undergraduate GPAs and progression to year three with an extra year.

Overall, 97% of 2019, 2020, and 2021 matriculants progressed to year three with an extra year, including those who entered with modest MCAT scores.

FIGURE 16. Median rates of progression to year three with an extra year, by MCAT total score (N = 58,636).[xiv]

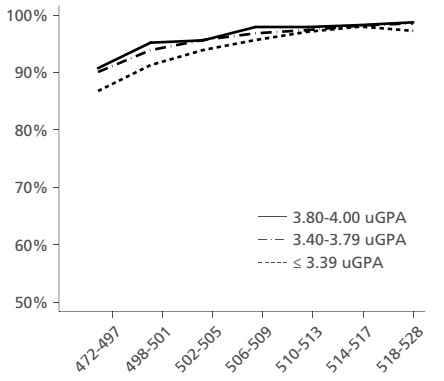


TABLE 7. Progression to Year Three With an Extra Year: 2019, 2020, and 2021 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	● 90% 38/42	● 91% 258/283	● 95% 858/900	● 96% 2,114/2,202	● 98% 4,453/4,541	● 98% 6,604/6,726	● 99% 6,546/6,640	● >99% 7,040/7,110	98% 27,919/28,453
3.60-3.79	--	--	■ 87% 46/53	● 92% 249/272	● 94% 799/847	● 96% 1,660/1,728	● 97% 2,983/3,085	● 98% 4,231/4,331	● 99% 3,382/3,431	● 99% 2,125/2,151	97% 15,485/15,908
3.40-3.59	--	■ 80% 8/10	■ 89% 32/36	■ 86% 203/236	● 94% 583/623	● 95% 1,054/1,115	● 97% 1,726/1,772	● 98% 2,080/2,132	● 98% 1,408/1,437	● 98% 754/766	97% 7,856/8,136
3.20-3.39	--	--	● 93% 28/30	■ 85% 123/145	● 92% 348/378	● 94% 591/630	● 96% 775/808	● 97% 832/857	● 98% 546/558	● 98% 246/251	95% 3,499/3,669
3.00-3.19	--	--	■ 80% 12/15	● 92% 76/83	■ 89% 198/222	● 95% 299/315	● 95% 358/378	● 98% 314/322	● 99% 187/189	● 100% 105/105	95% 1,556/1,636
2.80-2.99	--	--	--	■ 86% 19/22	■ 87% 71/82	● 91% 118/129	● 97% 122/126	● 94% 95/101	● 100% 56/56	■ 88% 30/34	93% 521/563
2.60-2.79		--	--	■ 86% 12/14	■ 81% 26/32	● 92% 37/40	● 92% 44/48	● 97% 31/32	■ 88% 14/16	--	91% 177/195
2.40-2.59			--	--	--	--	● 100% 19/19	--	--	--	98% 50/51
2.20-2.39				--	--	--	--	--	--		86% 18/21
2.00-2.19								--	--		--
Less than 2.00		--									--
All	88% 21/24	93% 40/43	88% 166/189	89% 947/1,063	94% 2,893/3,094	95% 5,882/6,168	97% 10,485/10,783	98% 14,197/14,512	98% 12,147/12,335	99% 10,307/10,425	97% 57,085/58,636

Note: Green (●) = progression rates of 90%-100%; yellow (■) = progression rates of 80%-89%; blue (▲) = progression rates of 70%-79%; white (◆) = progression rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis. Students who entered medical school with advanced standing from medical, graduate, or other programs; were enrolled in joint programs (e.g., MD-PhD) at the time of matriculation or graduation; participated in special research/nonresearch studies; or are deceased are not included in this table.

Graduation in Four Years

Table 8 illustrates the percentage and number of 2017, 2018, and 2019 matriculants who graduated medical school within four years, by MCAT total scores and GPAs. Figure 17 shows the median rates of graduation within four years by ranges of MCAT total scores.

The percentages show that higher undergraduate GPAs and MCAT total scores are mostly associated with higher four-year graduation rates.

Overall, 84% of 2017, 2018, and 2019 matriculants graduated within four years, an impressive result given the 62% average graduation rate from U.S. graduate and professional schools generally.[23]

FIGURE 17. Median rates of graduation in four years, by MCAT total score (N = 54,246).[xiv]

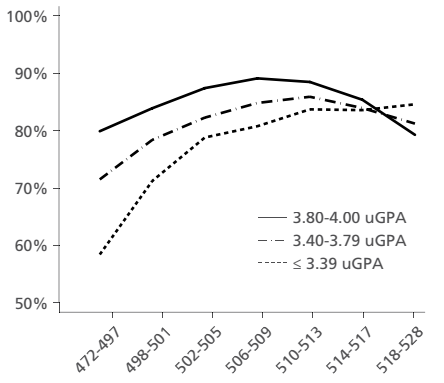


TABLE 8. Graduation in Four Years: 2017, 2018, and 2019 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	▲ 79% 41/52	■ 81% 219/271	■ 84% 775/926	■ 88% 2,012/2,299	■ 89% 3,873/4,371	■ 88% 5,068/5,751	■ 86% 4,575/5,347	■ 80% 4,404/5,514	85% 20,977/24,544
3.60-3.79	--	--	◆ 63% 32/51	▲ 76% 208/275	▲ 79% 720/914	■ 82% 1,600/1,948	■ 86% 2,922/3,404	■ 87% 3,577/4,108	■ 85% 2,595/3,059	■ 81% 1,596/1,977	84% 13,256/15,746
3.40-3.59	--	--	◆ 67% 30/45	◆ 61% 145/238	▲ 75% 504/672	■ 80% 954/1,190	■ 83% 1,518/1,835	■ 84% 1,718/2,040	■ 84% 1,164/1,392	■ 84% 656/778	82% 6,695/8,204
3.20-3.39		--	◆ 59% 19/32	◆ 61% 84/138	▲ 70% 274/390	▲ 77% 480/625	■ 80% 621/781	■ 83% 644/778	■ 83% 423/509	■ 83% 195/235	79% 2,744/3,494
3.00-3.19	--	--	■ 88% 15/17	◆ 51% 43/85	◆ 69% 138/200	▲ 79% 238/301	■ 80% 269/337	■ 82% 256/312	▲ 78% 123/158	■ 84% 74/88	77% 1,162/1,508
2.80-2.99	--	--	◆ 42% 5/12	◆ 45% 13/29	◆ 69% 45/65	◆ 69% 78/113	▲ 78% 97/125	■ 82% 66/80	■ 80% 37/46	■ 88% 21/24	73% 364/501
2.60-2.79		--	--	◆ 55% 6/11	◆ 55% 16/29	■ 85% 34/40	■ 84% 27/32	▲ 79% 11/14	■ 80% 16/20	--	75% 118/158
2.40-2.59		--	--	--	--	▲ 73% 8/11	■ 81% 13/16	● 92% 11/12	--	--	78% 46/59
2.20-2.39				--	--	--	--	--	--	--	70% 19/27
2.00-2.19			--			--			--		--
Less than 2.00		--	--								--
All	47% 9/19	57% 27/47	67% 144/216	69% 725/1,057	77% 2,477/3,204	83% 5,410/6,535	86% 9,342/10,906	87% 11,354/13,098	85% 8,940/10,538	81% 6,955/8,626	84% 45,383/54,246

Note: Green (●) = graduation rates of 90%-100%; yellow (■) = graduation rates of 80%-89%; blue (▲) = graduation rates of 70%-79%; white (◆) = graduation rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis. Students who entered medical school with advanced standing from medical, graduate, or other programs; were enrolled in joint programs (e.g., MD-PhD) at the time of matriculation or graduation; participated in special research or nonresearch studies; or are deceased are not included in this table.

Graduation in Five Years

Table 9 illustrates the percentage and number of 2017, 2018, and 2019 matriculants who graduated medical school within five years, by MCAT total scores and GPAs. Figure 18 shows the median rates of graduation within five years by ranges of MCAT total scores.

The percentages show that higher undergraduate GPAs and MCAT total scores are generally associated with higher five-year graduation rates.

Overall, 95% of 2017, 2018, and 2019 matriculants graduated within five years. This is consistent with AAMC data showing that five-year graduation rates have consistently remained at 95% for more than two decades.[24]

FIGURE 18. Median rates of graduation in five years, by MCAT total score (N = 54,184).[xiv]

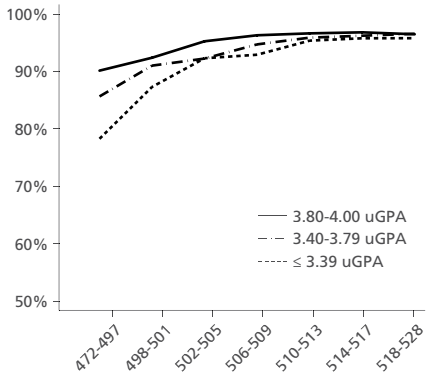


TABLE 9. Graduation in Five Years: 2017, 2018, and 2019 Matriculants

GPA Total	MCAT Total										
	472-485	486-489	490-493	494-497	498-501	502-505	506-509	510-513	514-517	518-528	All
3.80-4.00	--	--	■ 87% 45/52	● 92% 249/271	● 93% 860/926	● 95% 2,183/2,298	● 96% 4,204/4,367	● 97% 5,555/5,747	● 97% 5,168/5,337	● 97% 5,329/5,503	96% 23,604/24,514
3.60-3.79	--	--	▲ 75% 38/51	■ 88% 242/275	● 91% 834/914	● 93% 1,808/1,948	● 95% 3,229/3,402	● 96% 3,949/4,101	● 97% 2,955/3,054	● 96% 1,896/1,972	95% 14,960/15,727
3.40-3.59	--	--	■ 80% 36/45	■ 83% 197/238	■ 89% 601/672	● 92% 1,092/1,190	● 94% 1,726/1,832	● 96% 1,957/2,037	● 96% 1,332/1,388	● 97% 751/778	94% 7,702/8,194
3.20-3.39		--	▲ 72% 23/32	▲ 77% 106/138	■ 86% 334/390	● 91% 567/625	● 92% 720/779	● 94% 728/778	● 96% 486/508	● 96% 226/235	92% 3,195/3,491
3.00-3.19	--	--	■ 88% 15/17	▲ 73% 62/85	■ 88% 177/200	● 93% 281/301	● 91% 307/337	● 93% 290/312	● 93% 147/158	● 91% 80/88	91% 1,367/1,508
2.80-2.99	--	--	◆ 50% 6/12	▲ 76% 22/29	■ 82% 53/65	■ 87% 98/113	● 91% 114/125	● 94% 75/80	● 93% 43/46	● 96% 23/24	88% 439/501
2.60-2.79		--	--	● 91% 10/11	▲ 76% 22/29	● 90% 36/40	● 91% 29/32	● 93% 13/14	● 90% 18/20	--	88% 139/158
2.40-2.59		--	--	--	--	■ 82% 9/11	● 94% 15/16	● 100% 12/12	--	--	93% 55/59
2.20-2.39				--	--	--	--	--	--	--	85% 23/27
2.00-2.19			--			--			--		--
Less than 2.00		--	--								--
All	74% 14/19	81% 38/47	78% 168/216	85% 897/1,057	90% 2,888/3,204	93% 6,081/6,534	95% 10,347/10,895	96% 12,582/13,084	97% 10,156/10,518	97% 8,315/8,610	95% 51,486/54,184

Note: Green (●) = graduation rates of 90%-100%; yellow (■) = graduation rates of 80%-89%; blue (▲) = graduation rates of 70%-79%; white (◆) = graduation rates of 69% and lower. Cells with dashes = fewer than 10 observations; blank cells = zero observations. For students who took the MCAT exam multiple times, the most recent MCAT total score was used in this analysis. Students who entered medical school with advanced standing from medical, graduate, or other programs; were enrolled in joint programs (e.g., MD-PhD) at the time of matriculation or graduation; participated in special research or nonresearch studies; or are deceased are not included in this table.


7

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Appendix A. Foundational Concepts and Skills Tested on the MCAT Exam

This section describes the content categories, foundational concepts, scientific inquiry and reasoning skills, and information processing skills that examinees are asked to demonstrate across the four sections of the MCAT exam.

- **Biological and Biochemical Foundations of Living Systems**
- **Chemical and Physical Foundations of Biological Systems**
- **Psychological, Social, and Biological Foundations of Behavior**
- **Critical Analysis and Reasoning Skills**

The four sections of the MCAT exam assess students' academic preparedness in the natural, behavioral, and social sciences, as well as their comprehension and reasoning skills. The skills and concepts tested align with those that medical school faculty, residents, and medical students rated as important to the success of students entering medical school. These concepts are organized around the academic competencies described in seminal reports such as the Scientific Foundations for Future Physicians (2009) and the Behavioral and Social Science Foundations for Future Physicians (2011).[25,26]

To read more about the quantitative and qualitative research that supports the design and development of the MCAT exam, refer to Schwartzstein et al.[27] at aamc.org/mr5mcatcollection. ↗

Biological and Biochemical Foundations of Living Systems

Medical school applicants must be prepared to learn about the biological and biochemical concepts that contribute to health and disease. When they enter medical school, they must be ready to learn how:

- The major biochemical, genetic, and molecular functions of the cell support health and lead to disease.
- Cells grow and integrate to form tissues and organs that carry out essential biochemical and physiological functions.
- The body responds to internal and external stimuli to support homeostasis and the ability to reproduce.

The Biological and Biochemical Foundations of Living Systems section tests three foundational concepts and several reasoning skills that are building blocks for learning in medical school. This section asks examinees to solve problems by combining their knowledge of foundational concepts from biology, biochemistry, general chemistry, and organic chemistry with their scientific inquiry and reasoning skills.

Figure A.1 lists the foundational concepts and the more specific content categories tested within each foundational concept. It also provides examples of the ways examinees are asked to combine their knowledge of foundational concepts with their scientific reasoning skills to answer test questions in this section.

FIGURE A.1. Foundational concepts, content categories, and scientific inquiry and reasoning skills tested in the Biological and Biochemical Foundations of Living Systems section.

Biological and Biochemical Foundations of Living Systems

Foundational Concept 1	Foundational Concept 2	Foundational Concept 3
Biomolecules have unique properties that determine how they contribute to the structure and function of cells and how they participate in the processes necessary to maintain life.	Highly organized assemblies of molecules, cells, and organs interact to carry out the functions of living organisms.	Complex systems of tissues and organs sense the internal and external environments of multicellular organisms and, through integrated functioning, maintain a stable internal environment.
Content Categories	**Content Categories**	**Content Categories**
• Structure and functions of protein and their constituent amino acids. • Transmission of genetic information from the gene to the protein. • Transmission of heritable information from generation to generation and the processes that increase genetic diversity. • Principles of bioenergetics and fuel molecule metabolism.	• Assemblies of molecules, cells, and groups of cells within singular cellular and multicellular organisms. • The structure, growth, physiology, and genetics of prokaryotes and viruses. • Processes of cell division, differentiation, and specialization.	• Structure and functions of the nervous and endocrine systems and ways in which the systems coordinate the organ systems. • Structure and integrative functions of the main organ systems.

Questions in this section might ask examinees to:

- Recall the structural characteristics of two tissues and relate them to one another.
- Apply their understanding of Le Châtelier's Principle to explain differences in deprotonation of organic acids when added to blood vs. pure water.
- Use knowledge of adaptive immune response to evaluate the acceptability of a treatment for use in a clinical context.
- Use data about wavelength and light absorption to determine the color perception of an individual with a given phenotype.

Chemical and Physical Foundations of Biological Systems

Medical school applicants must be prepared to learn about the mechanical, physical, and biochemical functions of human tissues, organs, and organ systems and how these contribute to health and disease. When they enter medical school, they must be ready to learn about:

- The physiological functions of the respiratory, cardiovascular, and neurological systems in health and disease.
- Molecular and cellular functions in health and disease.

The Chemical and Physical Foundations of Biological Systems section tests two foundational concepts and several reasoning skills that are building blocks for learning in medical school. This section asks examinees to solve problems by combining their knowledge of foundational concepts from biology, biochemistry, physics, and general and organic chemistry with their scientific inquiry and reasoning skills.

Figure A.2 lists the foundational concepts and content categories tested in this section. It also provides examples of the ways examinees are asked to combine their knowledge of foundational concepts with their scientific inquiry and reasoning skills to answer test questions in this section.

FIGURE A.2. Foundational concepts, content categories, and scientific inquiry and reasoning skills tested in the Chemical and Physical Foundations of Biological Systems section.

Chemical and Physical Foundations of Biological Systems

Foundational Concept 4	**Foundational Concept 5**
Complex living organisms transport materials, sense their environment, process signals, and respond to changes using processes that can be understood in terms of physical principles.	The principles that govern chemical interactions and reactions form the basis for a broader understanding of the molecular dynamics of living systems.
Content Categories • Translational motion, forces, work, energy, and equilibrium in living systems. • Importance of fluids for the circulation of blood, gas movement, and gas exchange. • Electrochemistry and electrical circuits and their elements. • How light and sound interact with matter. • Atoms, nuclear decay, electronic structure, and atomic chemical behavior.	**Content Categories** • Unique nature of water and its solutions. • Nature of molecules and intermolecular interactions. • Separation and purification methods. • Structure, function, and reactivity of biologically relevant molecules. • Principles of chemical thermodynamics and kinetics.

Questions in this section might ask examinees to:

- Identify the relationship between the distribution of electric charges in the axon and the electric field lines they produce.
- Recognize the principles of flow characteristics of blood in the human body and apply the appropriate mathematical model to an unfamiliar scenario.
- Change the experimental conditions of a test for proteins in a solution to prevent the formation of precipitates.
- Use, analyze, and interpret data in a graph to determine the half-life of a radioactive substance used to measure cardiac function.

Psychological, Social, and Biological Foundations of Behavior

Medical school applicants must be prepared to learn about the impact of behavioral and sociocultural factors on illness and health outcomes. When they enter medical school, they must be ready to learn how:

- Cognitive and perceptual processes influence the understanding of health and illness.
- Behavior can either support health or increase risk for disease.
- Perception, attitudes, and beliefs influence interactions with patients and other members of the health care team.
- Patients' social and demographic backgrounds influence their perceptions of health and disease, the health care team, and therapeutic interventions.
- Socioeconomic factors can affect access to care and the probability of maintaining health and recovering from disease.

The Psychological, Social, and Biological Foundations of Behavior section tests five foundational concepts and several reasoning skills in the behavioral and social sciences that are building blocks for learning in medical school. This section tests the foundational concepts in psychology, sociology, and biology that tomorrow's doctors need to serve an increasingly diverse population and have a clear understanding of the impact of behavior and sociocultural differences on health. Like the natural sciences sections, this section asks examinees to solve problems by combining their knowledge of foundational concepts with their scientific inquiry and reasoning skills. It does not measure applicants' interpersonal skills, the way they will behave, or their attitudes and beliefs about social issues. Figure A.3 lists the foundational concepts tested in this section. It also provides examples of the ways examinees are asked to combine their knowledge of foundational concepts with their scientific inquiry and reasoning skills to answer test questions in this section.

FIGURE A.3. Foundational concepts, content categories, and scientific inquiry and reasoning skills tested in the Psychological, Social, and Biological Foundations of Behavior section.

Psychological, Social, and Biological Foundations of Behavior

Foundational Concept 6	Foundational Concept 7	Foundational Concept 8	Foundational Concept 9	Foundational Concept 10
Biological, psychological, and sociocultural factors influence the ways that individuals perceive, think about, and react to the world.	Biological, psychological, and sociocultural factors influence behavior and behavior change.	Psychological, sociocultural, and biological factors influence the way we think about ourselves and others, as well as how we interact with others.	Cultural and social differences influence well-being.	Social stratification and access to resources influence well-being.
Content Categories	**Content Categories**	**Content Categories**	**Content Categories**	**Content Categories**
• Sensing the environment. • Making sense of the environment. • Responding to the world.	• Individual influences on behavior. • Social processes that influence human behavior. • Attitude and behavior change.	• Self-identity. • Social thinking. • Social interactions.	• Understanding social structure. • Demographic characteristics and processes.	• Social inequity.

Questions in this section might ask examinees to:

- Draw conclusions about the type of memory affected by an experimental manipulation when shown a graph of findings from a memory experiment.
- Reason about whether a causal explanation is possible when given an example of how personality predicts individual behavior.
- Distinguish the kinds of claims that can be made when using longitudinal data, cross-sectional data, or experimental data in studies of social interaction.

Critical Analysis and Reasoning Skills

The structure of the Critical Analysis and Reasoning Skills section is different from the structure of the other sections of the exam. It asks applicants to process information, solve problems, and draw conclusions from information presented in passages. Medical students are required to comprehend and analyze a great deal of information in different contexts, and this section has been developed specifically to assess these information processing skills. The Critical Analysis and Reasoning Skills section tests how well applicants comprehend, analyze, and evaluate what they read; draw inferences from text; and apply arguments to new ideas and situations. It tests examinees' ability to process information by having them read passages from a diverse set of disciplines in the humanities and social sciences. These passages are excerpted from the kinds of books, journals, and magazines college students are likely to read.

All passages in this section of the MCAT exam consist of multiple paragraphs and require thoughtful reading. Students must grasp the meaning of each paragraph and also identify the relationships across paragraphs. Additionally, students must attend to the authors' stated and unstated assumptions and the rhetorical choices they have made to develop stance, voice, and style. Some passages require an understanding of the authors' interpretations, implications, or applications of historical accounts, theories, observations, or societal trends. The questions that follow the passages ask students to think about the passages from different perspectives or to question the authors' statements, judge the relevance of the authors' examples, or consider crucial facts that might challenge the authors' assertions or analysis. It is important to keep in mind that the questions in this section do not rely on specific background knowledge in the humanities and social sciences. Students get all the information they need to answer the questions from the accompanying passages and the questions themselves. The Critical Analysis and Reasoning Skills section assesses three broad critical analysis and reasoning skills: Foundations of Comprehension, Reasoning Within the Text, and Reasoning Beyond the Text. The major elements of each skill are described in Figure A.4.

FIGURE A.4. Analysis and reasoning skills tested in the Critical Analysis and Reasoning Skills section.

Critical Analysis and Reasoning Skills

Foundations of Comprehension	Reasoning Within the Text	Reasoning Beyond the Text
Questions measuring Foundations of Comprehension ask examinees to demonstrate their information processing skills by: • Understanding the basic components of the text, such as the author's thesis, the main point or theme of the passage, and the meanings of words or phrases as they are used in a specific context. Recognizing the purpose or function of such rhetorical labels as "for example," "therefore," or "consequently." • Interpreting the author's intent using the sentences in the text or question. Attending to the ways an author's language and tone can shape an argument or to points that the author merely hints at through connotative language or figures of speech.	Questions measuring Reasoning Within the Text ask examinees to demonstrate their information processing skills by: • Integrating distant components of the text to infer meaning or intent. Determining an author's purpose, position, or point of view. Inferring their beliefs, identifying their assumptions, and detecting bias. Identifying paradoxes, tensions, or contradictions within an argument. • Evaluating the degree and nature of support for an argument or for particular claims, distinguishing fact from opinion, assessing the credibility of sources. Considering the relevance of information and the legitimacy of generalizations and examining the relationships between different parts of the passage.	Questions measuring Reasoning Beyond the Text ask examinees to demonstrate their information processing skills by: • Applying or extrapolating ideas from the passage to new contexts, situations, possibilities, alternatives, options, or proposals, such as identifying a new scenario that is consistent with an author's point of view or a relationship described in the passage. • Assessing the impact of introducing new factors, information, or conditions on ideas from the passage to evaluate students' understanding that inferences and conclusions may change in the face of new information.

Appendix B. 2023 Admissions Officers Survey Results

Admissions officers at 128 medical schools completed a 2023 AAMC survey on the use and importance of data in admissions decision-making. The survey asked, "How important were the following data about academic preparation, experiences, attributes/personal competencies, biographic/demographic characteristics, and interview results in identifying the applicants to [interview, offer an acceptance]?" Importance was rated on a scale ranging from 1 to 4 ("Not Important," "Somewhat Important," "Important," and "Very Important," respectively).

For each variable, we computed an overall mean importance rating based on admissions officers' ratings of importance for making decisions about who to interview and who to accept (the mean importance rating for the interview variable is the exception to this rule because interview data were not available until applicants were invited to interview). We chose to classify variables using overall mean importance ratings because their mean importance ratings were similar for the interview and the acceptance phases. Variables are ordered by overall mean importance rating.

Mean Importance Ratings of Academic, Experiential, Demographic, and Interview Data Used by Admissions Committees to Make Decisions About Which Applicants Receive Interview Invitations and Acceptance Offers

Admission Variable	Highest Importance Ratings (≥ 3.0)	Medium Importance Ratings (≥ 2.5 and < 3.0)	Lowest Importance Ratings (< 2.5)
Academic Metrics	• GPA: cumulative science/math • GPA: cumulative undergraduate total • GPA: undergraduate grade trend • MCAT total scores • Completion of premedical course requirements • MCAT total score trend • GPA: cumulative total from postbaccalaureate premedical program	• Biological and Biochemical Foundations of Living Systems scores • Completion of challenging upper-level science courses • Critical Analysis and Reasoning Skills scores • Chemical and Physical Foundations of Biological Systems scores • Psychological, Social, and Biological Foundations of Behavior scores • GPA: cumulative non-science/math	• Degree from a graduate or professional program • Completion of challenging non-science courses • Undergraduate major • Selectivity of undergraduate institution(s) • Non-science undergraduate major
Experiences	• Community service/volunteer: medical/clinical • Community service/volunteer: not medical/clinical • Physician shadowing/clinical observation • Leadership not listed elsewhere • Paid employment: medical/clinical	• Research/lab • Military service • Other extracurricular activities • Paid employment: not medical/clinical	• Teaching/tutoring/teaching assistant • Intercollegiate athletics • Conferences attended, presentations, posters, publications • Honors, awards, recognitions

Admission Variable	Highest Importance Ratings (≥ 3.0)	Medium Importance Ratings (≥ 2.5 and < 3.0)	Lowest Importance Ratings (< 2.5)
Demographics	• U.S. citizenship/permanent residency (public)[1] • From your school's state or local region (public)[1] • Lived or worked with groups that have experienced disadvantage	• First-generation college • From households with low socioeconomic status • Race/ethnicity (if consideration of race/ethnicity is permitted by state law) • From a rural area • From a medically underserved area • From a tribal area	• U.S. citizenship or permanent residency (private)[1] • First-generation immigrant status (first generation born in U.S. or first generation to relocate to U.S.) • Deferred Action for Childhood Arrivals (DACA) recipient • From your school's state or local region (private)[1] • Multilingual • From an urban area • Gender • From an under-resourced university • English language learner • Transferred from community college to a four-year undergraduate institution • Legacy status • Age
Other Data	• Interpersonal skills (Service Orientation, Social Skills, Cultural Competence, Teamwork, Oral Communication) • Intrapersonal skills (Ethical Responsibility to Self and Others, Reliability and Dependability, Resilience and Adaptability, Capacity for Improvement) • Interview results[2]		

1 Among the list of variables on the survey, importance ratings on these variables differed the most between public and private institutions.

2 Only available at the admissions stage where admissions committees make a decision to offer an acceptance.

Appendix C. MCAT Total and Section Percentile Ranks: May 1, 2025 - April 30, 2026

The column labeled "Percentile Rank" provides the percentage of scores equal to or less than each score point. These percentile ranks are based on all MCAT exam results from the 2022 to 2024 testing years combined (N = 293,882). For example, 74% of MCAT total scores were equal to or less than 508 across all exams administered in 2022 to 2024. Updates to the percentile ranks are made on May 1 each year and are based on exams administered in the three most recent test administration years. MCAT percentile ranks are also available at aamc.org/mcat-percentile-ranks. ↗

MCAT Total Scores and Percentile Ranks

Total Score	Percentile Rank	Total Score	Percentile Rank
472	<1	501	52
473	<1	502	55
474	<1	503	58
475	1	504	62
476	1	505	65
477	2	506	68
478	2	507	71
479	3	508	74
480	4	509	77
481	5	510	79
482	6	511	82
483	8	512	84
484	9	513	87
485	11	514	89
486	12	515	91
487	14	516	92
488	16	517	94
489	18	518	95
490	21	519	96
491	23	520	97
492	25	521	98
493	28	522	99
494	31	523	99
495	34	524	100
496	36	525	100
497	39	526	100
498	42	527	100
499	46	528	100
500	49		

MCAT Section Scores and Percentile Ranks

Biological and Biochemical Foundations of Living Systems

Total Score	Percentile Rank
118	2
119	4
120	8
121	15
122	23
123	32
124	43
125	54
126	65
127	75
128	84
129	90
130	96
131	99
132	100

Chemical and Physical Foundations of Biological Systems

Total Score	Percentile Rank
118	2
119	4
120	9
121	16
122	25
123	35
124	46
125	57
126	67
127	77
128	85
129	91
130	96
131	99
132	100

Psychological, Social, and Biological Foundations of Behavior

Total Score	Percentile Rank
118	1
119	3
120	6
121	11
122	17
123	25
124	34
125	44
126	55
127	66
128	76
129	85
130	93
131	97
132	100

Critical Analysis and Reasoning Skills

Total Score	Percentile Rank
118	1
119	3
120	8
121	15
122	25
123	37
124	50
125	62
126	73
127	83
128	90
129	95
130	98
131	99
132	100

Figure Notes

Figure 3. MCAT examinees from 2022 to 2024, by demographic characteristics, backgrounds, and experiences (N = 215,447).

i. For those who took the exam more than once, the information from their most recent administration was used in these analyses.

ii. Percentages do not add up to 100% because some examinees reported multiple races/ethnicities.

iii. Examinees report the highest level of education for up to four parents. These results are for the highest level of parental education.

iv. For repeater status, "Single attempt only" includes examinees who took the current MCAT exam for the first time in 2022, 2023, or 2024 and did not test again. "Repeater" includes examinees who tested from 2022 to 2024 and who took this version of the MCAT exam more than once in their testing history.

Figure 4. College coursework and preparation strategies reported by 2022, 2023, and 2024 MCAT examinees (N = 215,447).

v. These coursework data are from the AAMC's Post-MCAT Questionnaire (PMQ) and are based on respondents' self-reported information about courses for which they had Advanced Placement, International Baccalaureate, College Level Examination Program, community college, four-year college, postbaccalaureate, graduate, and professional school credit (N = 27,095). For examinees who take the MCAT exam more than once, results are based on the PMQ completed after the examinee's most recent scored exam. PMQ respondents are largely representative of the total examinee population; they are similar in most background characteristics but obtain slightly higher MCAT scores on average. MCAT examinees from a sample of test dates are invited to participate in the PMQ.

vi. Percentages were calculated from examinee responses to questions about their MCAT preparation asked at the end of the testing day (N = 175,086). Each year, more than 95% of examinees complete this brief survey at the end of the testing day. For those who tested more than once, results are based on examinees' most recent responses.

Figure 6. MCAT total scores for all exams administered from 2022 to 2024, overall and by demographic characteristics, backgrounds, and experiences (N = 293,882).

vii. Data for examinees who reported their race/ethnicity as "other" are not shown.

viii. Examinees report the highest level of education for up to four parents. These results are for the highest level of parental education for examinees who took the MCAT exam from 2022 to 2024.

ix. For repeater status, "Single attempt only" includes the scores from the examinees who took the current MCAT exam for the first time in 2022, 2023, or 2024 and did not test again. "Repeater" data include scores from the examinees who took the MCAT exam for the first time in 2022, 2023, or 2024 and then tested at least one more time during this same time period. They are a subset of those who tested more than once since this version of the MCAT exam was introduced. The "1st attempt" box plot shows these repeaters' scores from their very first attempt, and the "2nd attempt" box plot shows these same examinees' scores from their second attempt.

Figure 8. Mean MCAT total score change, by education level change between first and second attempts, 2019 to 2023.

x. Highest education level data are from respondents' self-reported answers to AAMC's End of Day Survey question: "As of today, what is the highest level of education or year in school you have completed?" To be included in this analysis, examinees must have responded to this question on both MCAT attempts, and answered one of the following years/levels: college freshman (first year), college sophomore (second year), college junior (third year), bachelor's degree, postbaccalaureate undergraduate, or master's degree or PhD.

xi. Changes in MCAT scores are based on examinees' first and second attempt of the current MCAT exam from 2019 through 2023. Third attempts and beyond are not included in this analysis.

xii. Advance 1 academic year/level in college or beyond is defined by indicating advancement to the next sequential academic year/level (e.g., college freshman [first year] to college sophomore [second year]) between MCAT attempts.

xiii. Advance 2+ academic years/levels in college or beyond is defined by indicating advancement beyond the next sequential academic year/level (e.g., college freshman [first year] to bachelor's degree) between MCAT attempts.

Figures 11-18.

xiv. Each figure represents the same data as the table shown on the corresponding page. Figures show pass, progression, or graduation rates for matriculated students in the years noted, by most recent MCAT total score. Students are grouped by undergraduate GPAs of less than 3.40, from 3.40 to 3.79, and greater than or equal to 3.80. Results for students admitted with MCAT total scores from 498 to 517 are grouped in three-point score ranges. Results for students admitted with MCAT total scores from 472 to 497 are reported together, as are the results for those who scored from 518 to 528, because fewer students are admitted with MCAT scores at the bottom and top of the MCAT score scale.

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