



THE PRE-MED JOURNEY: AN EDUCATOR'S GUIDE

What Every Educator Needs to Know About a Career in Medicine



WELCOME, EDUCATORS: START HERE

Thank you for your dedication to shaping the future of medicine. As an educator, you play a vital role in inspiring and guiding students who dream of becoming physicians.

The Pre-Med Journey: An Educator's Guide is designed to give you a clear, practical roadmap for helping your students navigate the complex and rewarding path to a medical career. From understanding the stages of training and key exams to recognizing valuable extracurriculars and special programs, this guide equips you with the knowledge you need to advise and encourage future doctors.

Use this resource to answer students' questions with confidence, connect them to meaningful opportunities, and support their ambitions every step of the way.

Together, we can empower the next generation of compassionate, skilled physicians—starting in your classroom.



WHAT'S INSIDE

PAGE 4	The Long Road to Becoming a Physician
PAGE 5	Essential High School & Pre-Med Exams
PAGE 6	Medical School Exams and Board Certification
PAGE 8	Medical Specialties
PAGE 10	High School Extracurriculars
PAGE 12	Choosing the Right College as a Pre-Med
PAGE 13	Does the College Offer the Right Fit?
PAGE 14	What About Direct Medical (BS/MD) Programs?
PAGE 15	Benefits of BS/MD Programs
PAGE 16	Mastering the BS/MD Application Process
PAGE 17	Planning Ahead for a Medical Education
PAGE 18	Helpful Resources for Aspiring Medical Students

The Long Road to Becoming a Physician

If you are trying to help one of your students navigate pursuing a career in medicine, it is important to understand the timeline and requirements. The path is long: 4 years of high school, 4 years of college, maybe 1–2 gap years, 4 years of medical school, 3–7 years of residency, 1–2 years of fellowship, and then... they are a doctor!

In total, becoming a full-fledged doctor can take around 15 to 22 years from the start of high school. This extensive journey requires dedication, hard work, and continuous support. Why does it take so long? Let's look at some of the steps in detail.

- 1. High School** – Students should complete high school with a strong foundation for college level work. Encourage them to take advanced courses in science and math and participate in extracurricular activities related to medicine/science/community service.
- 2. College** – In the American system, physicians must complete a bachelor's degree at a U.S. accredited university. Students can choose any major, but they must complete specific pre-med courses. Additionally, they will need to take the Medical College Admission Test (MCAT).
- 3. Medical School** – Medical school typically lasts for four years and consists of two years of classroom learning and two years of clinical rotations. Coursework is very rigorous and students gain practical experience. After completing board exams, students in their final year will apply to match into a residency program.
- 4. Residency** – After graduating from medical school, new physicians will enter a residency program in their chosen specialty. Residency programs vary in length from 3 to 7 years. This is when they truly learn the day-to-day skills needed to practice medicine.
- 5. Fellowship** – Some physicians choose to pursue a fellowship after residency to gain additional training in a sub-specialty. This can add 1 to 3 years to their training.
- 6. Attending Physician** – Finally, after all these years of education and training, these students become practicing physicians!



Essential High School & Pre-Med Exams

Becoming a physician requires passing key exams along the way. These tests help students build strong academic skills and demonstrate readiness for college and medical school.

SAT

Students usually take the SAT during high school. A strong SAT score shows readiness for rigorous coursework and helps develop test-taking skills needed for future exams in medicine. Even if some colleges are test-optional, taking the SAT is still recommended for aspiring physicians.

ACT

Like the SAT, the ACT is taken in high school and demonstrates a student's academic strengths. Preparing for and doing well on the ACT helps students build study habits and confidence for exams they'll face later in their medical journey.

MCAT

Taken during college as a pre-med student, the MCAT (Medical College Admission Test) is crucial for entry into medical school. It consists of four sections:

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

Preparation for the MCAT usually involves weeks of intense study after students have completed the appropriate pre-med coursework in college.

Medical School Exams and Board Certification

Throughout medical training, students and physicians complete a series of exams to demonstrate the knowledge and skills required for safe patient care. This includes USMLE Step 1, Step 2 CK (Clinical Knowledge), and Step 3, Shelf Exams during clinical rotations, and Specialty Board Exams after residency to confirm expertise in a chosen specialty.

USMLE Step 1

The first of three USMLE tests (United States Medical Licensing Exams) is typically taken during the second year of medical school. It is a pass/fail exam covering core basic sciences such as pharmacology, physiology, anatomy, and pathophysiology—knowledge that forms the foundation for clinical training.

Key details:

- Tests essential scientific concepts needed for future exams and clinical work.
- Passing Step 1 allows students to progress to clinical rotations.
- Preparation often includes review courses, question banks, and practice exams.

USMLE Step 2 CK

Step 2 CK (Clinical Knowledge) is taken in the fourth year of medical school and is a scored exam. It builds on the scientific knowledge from Step 1 and focuses on diagnosing and managing patient conditions.

Key details:

- Assesses clinical reasoning and disease management skills.
- Strong performance can enhance residency applications.
- Students prepare using practice questions, patient case reviews, and targeted study.

USMLE Step 3

Step 3 is the final USMLE exam, typically taken during the first year of residency. It evaluates whether a physician is ready to practice independently, covering advanced clinical problem-solving and patient management.

Key details:

- Confirms readiness for unsupervised patient care.
- Focuses on advanced decision-making and complex medical scenarios.
- Required for full medical licensure in the United States.



Shelf Exams

During medical school, students take Shelf Exams (NBME Subject Exams) at the end of each core clinical rotation. These exams test how well students have mastered the topics for that specialty and contribute to their final rotation grades.

Examples of Shelf Exams:

- Internal Medicine Shelf Exam
- Surgery Shelf Exam
- Pediatrics Shelf Exam
- Psychiatry Shelf Exam
- Obstetrics & Gynecology Shelf Exam

Specialty Boards

After passing all three steps of the USMLE, physicians take additional Specialty Board exams to demonstrate up-to-date expertise in their chosen field. These certifications show that doctors can provide high-quality care in that specialty and must be renewed periodically.

Examples of Specialty Boards:

- American Board of Internal Medicine (ABIM)
- American Board of Pediatrics (ABP)
- American Board of Surgery (ABS)
- American Board of Radiology (ABR)
- American Board of Psychiatry and Neurology (ABPN)

Together, these exams build a clear pathway from student to practicing physician. Understanding each step helps students prepare confidently and stay focused on their ultimate goal—providing safe, expert care to patients.



Medical Specialties

According to the AAMC, there are over 200 specialties and subspecialties in medicine in the U.S.! Provided are 15 common specialties, including some especially popular among osteopathic physicians.

ANESTHESIOLOGY

Anesthesiologists manage pain and sedation during surgeries, ensuring patients are comfortable and safe while surgeons perform operations. They are critical in both surgical and pain management settings.

DERMATOLOGY

Dermatologists are skin specialists dealing with everything from cosmetic issues to life-threatening skin cancers. They understand and treat conditions affecting the body's largest organ.

EMERGENCY MEDICINE

Emergency medicine doctors diagnose and treat urgent and life-threatening conditions in emergency rooms. They stabilize patients and coordinate care with other specialists.

FAMILY MEDICINE

Family medicine doctors provide comprehensive care for patients of all ages, from infants to the elderly. They handle routine checkups, minor surgeries, and manage chronic conditions.

INTERNAL MEDICINE

Internal medicine physicians, or internists, manage routine and complex medical issues in adults. They can further specialize in areas like cardiology or gastroenterology.

NEUROSURGERY

Neurosurgeons primarily perform surgery on the brain and spinal cord. The training is long and demanding, but neurosurgeons make significant impacts through their work.

OBSTETRICS AND GYNECOLOGY (OB/GYN)

OB/GYNs care for women's reproductive health, manage pregnancy and childbirth, and perform related surgeries. This specialty combines medicine and surgery.

ORTHOPEDIC SURGERY

Orthopedic surgeons address issues related to the bones and muscles. They treat fractures, perform joint replacements, and repair ligaments, helping patients regain mobility and function.



PATHOLOGY

Pathologists study diseases, often using a microscope. They diagnose patients by examining tissues and cells, helping other doctors understand diseases.

PEDIATRICS

Pediatricians specialize in the medical care of children, providing routine care and treating a wide range of conditions from common illnesses to complex diseases.

PLASTIC SURGERY

Plastic surgeons perform cosmetic and reconstructive procedures. They help burn victims, perform reconstructions after cancer surgery, and address various cosmetic concerns to improve quality of life.

PSYCHIATRY

Psychiatrists focus on mental health, diagnosing and treating mental illnesses. They work in various settings and collaborate with other healthcare professionals to provide comprehensive care.

RADIOLOGIST

Radiologists diagnose diseases using imaging techniques such as x-rays, CT scans, and MRIs. They also perform certain procedures with imaging guidance.

RADIATION ONCOLOGIST

Radiation oncologists use targeted x-ray energy to destroy cancer cells in the body, playing a crucial role in many cancer treatment plans.

SPORTS MEDICINE

Sports medicine physicians diagnose and treat injuries related to exercise and athletics. They help patients recover, prevent future injuries, and maintain an active lifestyle.



High School Extracurriculars

Gaining first-hand experience in the healthcare field during high school can be valuable for understanding the skills necessary for success. It offers insight into what a physician does and can strengthen college applications. Here are some activities to consider:

Clinical Exposure

Encourage students interested in medicine to gain insight into what a physician does through clinical exposure. This can include:

- Hospital volunteering
- Clinic volunteering
- Nursing home volunteering

You can assist your students by helping them identify any local hospitals or clinics where they can volunteer and encourage them to volunteer during school breaks.

Physician Shadowing

Shadowing involves observing a physician's practice and daily activities. This experience can occur in outpatient clinics or hospitals and requires persistence to find opportunities. Make sure to put students in contact with any of your local connections and encourage them to reach out to local doctors and hospitals!

For students who may not have access to in-person shadowing opportunities, virtual shadowing is an excellent alternative. MedSchoolCoach offers a free Virtual Shadowing program where students can watch recorded physician-led sessions, hear real patient cases, and gain exposure to a variety of medical specialties from the comfort of home. This flexible option helps students explore the field of medicine and earn a certificate for participation. [Start Virtual Shadowing with MedSchoolCoach.](#)



Research

Conducting research is also a significant aspect of being a physician, especially in academic settings. Research experience is an expected component of a successful medical school application, so starting early to gain research skills can be very beneficial. Encourage students to seek out research opportunities and, if possible, help them contact local university professors to find projects of interest.

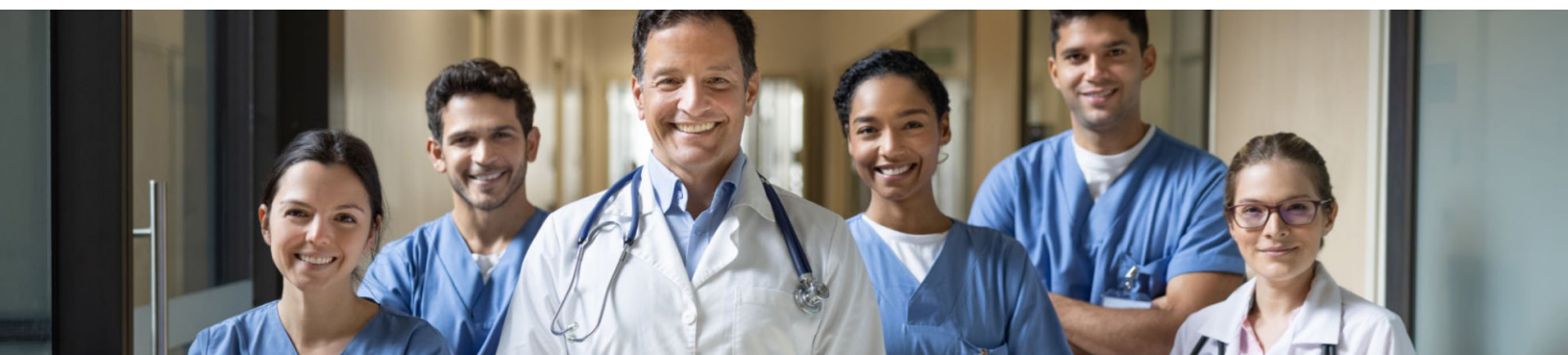
In addition to local opportunities, students can benefit from guided mentorship such as through the MedSchoolCoach Research Scholars Program. This personalized virtual program pairs high school students with a PhD mentor to design, execute, and complete impactful research projects. Students gain valuable experience in literature review, data collection, scientific writing, and may even submit their work for publication — all of which can make their college and future medical school applications stand out. [Learn more and enroll in the Research Scholars Program.](#)

Special Programs

Students can also explore structured programs outside of school that offer deeper exposure to medical topics and hands-on experiences.

- **Georgetown Medical Academy** – Offers a snapshot of medical school with hands-on projects and case studies. [\[Learn more\]](#)
- **USC Summer Programs for High School Students** – Provides a four-week academic experience with hands-on workshops and lectures. [\[Learn more\]](#)
- **University of Michigan Math and Science Scholars Program** – Introduces students to current developments in sciences and math. [\[Learn more\]](#)
- **National Youth Leadership Forum: Medicine** – Offers hands-on medical experiences and clinical skills rotations. [\[Learn more\]](#)

These activities and programs can help students gain valuable experience, making them stronger candidates for college and ultimately, medical school.



Choosing the Right College as a Pre-Med

Now that we have an overview of what is required to become a physician, let's focus on a very important step for pre-meds: **picking a college!** Here's how to help students choose a college where they will be happy and successful as a pre-med.

Where Will They Be the Happiest?

College can be stressful, especially for pre-med students. These students will need to achieve great grades, participate in extracurricular activities, and score well on the MCAT. One of the most important aspects of doing well is finding a college where they will be happy and comfortable.

Questions to Consider:

- Will they have optimal support from family and friends?
- Is the environment collaborative?
- Is there support from the faculty?
- Would they feel more comfortable at a large or small university?
- Does the campus feel inviting?



Does the College Offer the Right Fit?

Students can major in anything they want, but it's important to think about what aligns with their interests and also offers pre-med requirements. Make sure the college offers strong programs that support their medical aspirations.

How Much Does the Specific College Cost?

College and medical school are both expensive so it's important for families to consider costs for undergraduate programs when considering the long-term financial picture. Students should be encouraged to discuss expenses with their families and should explore all scholarships and financial aid options.

How Prestigious Is the School?

While attending a prestigious college can be beneficial, it is not the only factor that medical schools consider. Grades, MCAT scores, and extracurricular activities are often more important.

Example:

An applicant with a 4.0 GPA from a state college may be favored over a 3.5 GPA from an Ivy League school if other qualifications are strong.

Bottom Line:

Don't choose a college solely based on prestige. Students should use these other tips to pick a school that will support their success as a pre-med and be the best fit college for them



What About Direct Medical (BS/MD) Programs?

The college application season is one of the most demanding parts of any high school student's journey. It requires dedication and a significant amount of time spent on essays, interviews, financial aid applications, and more. The medical school application process follows a similar path but can be even more rigorous and time-consuming. With an average medical school acceptance rate of about 40%, it's highly competitive.

Why go through this stressful process twice? BS/MD programs offer an alternative: a combined bachelor's and medical degree pathway that allows students to bypass the traditional medical school application process. Students secure a conditional spot in medical school straight out of high school, providing greater peace of mind and allowing them to focus more fully on learning and growth during their undergraduate years.

While BS/MD programs come with clear advantages, they are among the most selective options available, often requiring stellar academics, well-rounded extracurriculars, and impressive interviews.



Benefits of BS/MD Programs

1. Extensive Connections

Students in BS/MD programs join a cohort of accomplished peers and gain access to faculty and alumni networks with extensive connections in the medical field. This can open doors to research opportunities, internships, and clinical experiences that enrich their education and future career.

2. Scholarships and Grants

Being accepted into a BS/MD program can strengthen applications for merit-based scholarships and grants. Many universities provide financial incentives to attract top-tier students into these rigorous combined programs.

3. Personal Attention and Support

Faculty and advisors in BS/MD programs are deeply invested in student success. They often provide personalized guidance on academic planning, help students balance their demanding coursework, and offer emotional support — especially valuable for students who may be living away from home for the first time.

4. Special Seminars and Enrichment Opportunities

Many BS/MD programs include exclusive seminars, guest lectures, or workshops led by leading physicians and researchers. These experiences expose students to cutting-edge topics in medicine, allow them to interact with professionals early on, and help them clarify their own areas of interest.

5. Academic Flexibility

Students enrolled in BS/MD pathways often enjoy greater flexibility in their undergraduate studies. Without the pressure of applying to medical school during college, they can pursue additional majors, minors, or study abroad opportunities that broaden their perspective and develop a well-rounded skill set.

6. Streamlined Pathway to a Medical Career

One of the biggest benefits is the certainty that comes with a secured spot in medical school (provided program requirements are met). This can reduce stress and enable students to focus on gaining meaningful clinical experience, community service, and leadership roles that will serve them well as future physicians.

Bottom Line:

BS/MD programs are designed to nurture driven, compassionate, and academically strong students. They provide a structured yet flexible environment that supports students from day one, setting them on a direct path toward a successful medical career.

Mastering the BS/MD Application Process

When helping students apply to BS/MD programs, consider the following steps:

1. Narrow Down Schools

Most guidance counselors recommend applying to 8–12 colleges. For BS/MD programs, however, it's typical to apply to around 20–25 programs to increase the odds of acceptance. This can feel overwhelming, so help students balance these applications alongside their traditional college list. Remind students that BS/MD programs are among the most competitive paths, so casting a wide net while staying organized is key.

2. Create a Balanced List

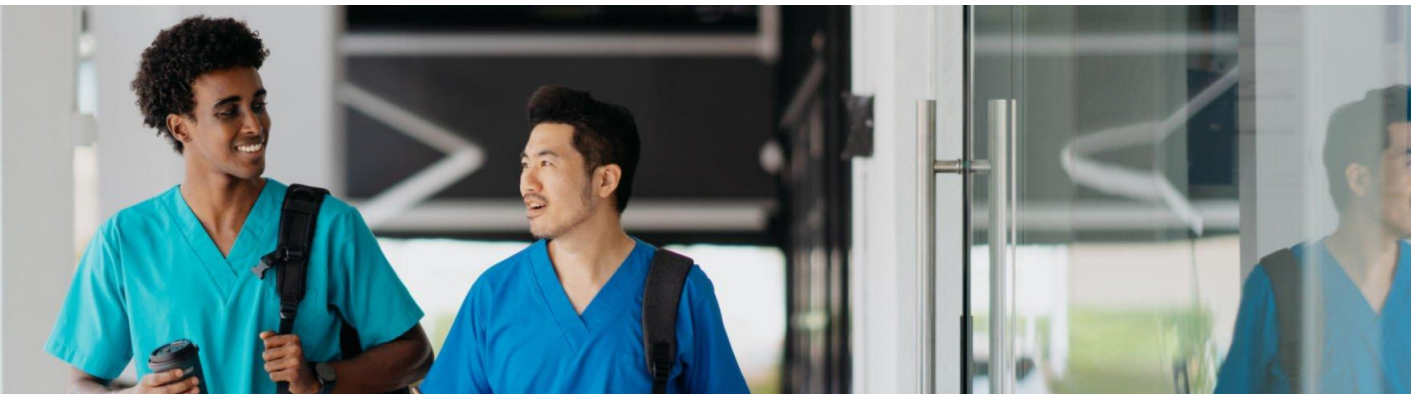
Advise students to include a mix of BS/MD and traditional college programs, including safety, target, and reach schools in their list, understanding that all BS/MD programs are highly competitive. Research each program's requirements, average accepted student profile, and interview process. Encourage families to divide up the research and create a tracking spreadsheet to stay on top of deadlines and requirements.

3. Start Early

BS/MD applications are often more detailed than traditional applications and may have additional essays, multiple interviews, and unique recommendation requirements. Encourage students to start early — ideally in the summer before senior year — so they have plenty of time to write thoughtful essays, prepare for interviews, and gather strong letters of recommendation.

4. Seek Guidance

Students should take advantage of every available resource. Encourage them to talk with high school counselors, connect with BS/MD admissions experts, and use trusted online sources. Many families also find it helpful to reach out to alumni or current students in BS/MD programs to gain first-hand insights and advice.



Planning Ahead for a Medical Education

9th Grade – Narrow Down Interests

Encourage students to explore various academic subjects and extracurricular activities to identify their interests. This exploration will help them build a strong foundation for their future applications.

10th Grade – Plan and Prepare

Students should be choosing advanced courses and working to maintain a strong academic record with increasing rigor. They can be encouraged to explore volunteer positions and medical shadowing opportunities. They can also be encouraged to start preparing for the SAT/ACT early.

11th Grade – Focus and Finalize

By junior year, students should focus on excelling in their academics, completing standardized tests, and narrowing down their college list. They should also continue participating in meaningful extracurricular activities.

12th Grade – Apply and Interview

During their senior year, students are busy completing college applications, writing essays, completing scholarship applications, and preparing for BS/MD interviews. Encourage students to stay organized and manage their time effectively to meet all deadlines. Learning early to balance school and extracurriculars is important in all aspects of medical education.



Helpful Resources for Aspiring Medical Students

These essential tools and websites can help guide your students through the pre-med and medical school preparation process.

Association of American Medical Colleges (AAMC)

AAMC's main website provides comprehensive resources for students from high school through medical school, including application guides, financial aid tips, and career planning. [[Learn more](#)]

Choosing a Medical Career

Explore whether a medical career is right for you, discover medically related experiences, and read inspiring stories from medical students and physicians.

[[Learn more](#)]

Aspiring Docs Fact Sheets

Understand the key steps along the pre-med pathway with concise fact sheets for students and families. [[Learn more](#)]

Aspiring Docs Diaries

Follow real stories from pre-meds, medical students, and residents, or share your own journey to inspire others. [[Learn more](#)]

Anatomy of an Applicant

Learn about the core competencies medical schools value most and see examples from real applicants. [[Learn more](#)]

Paying for Medical School

Get tools and advice for planning financially, including guidance on tuition, aid, and scholarships. [[Learn more](#)]

American Medical College Application Service (AMCAS)

Used by most U.S. medical schools, AMCAS is the centralized application system — a must-know for all future applicants. [[Learn more](#)]

MedSchoolCoach

MedSchoolCoach offers personalized guidance for high school students interested in medicine. Advisors help plan coursework, build extracurriculars, gain clinical and research experiences, and develop a standout application. [[Learn more](#)]



American Medical Student Association (AMSA)

This student-governed, national organization addresses the concerns of physicians-in-training. [[Learn more](#)]

Prospective Doctor

This site provides free resources for those considering or pursuing a career in medicine. [[Learn more](#)]

The Student Doctor Network (SDN)

SDN offers extensive resources suited for students interested in medicine, especially useful for upperclassmen. Exploring this site can be very beneficial. [[Learn more](#)]

Medical School Websites

To understand what medical schools seek in applicants, visit and review the websites of various institutions.

By leveraging these resources, you can help students stay informed and prepared throughout their pre-med journey. Encouraging them to explore these tools early on will provide students with a strong foundation as they work towards their goal of becoming a doctor.





Join us in empowering high school students who dream of becoming doctors.



CONTACT US



hsafp.org

