

APSA FAQ for MD/DO-PhD Applicants

The American Physician Scientists Association (APSA) wishes to support applicants to combined degree programs during this difficult time. This FAQ document is a resource created for applicants from our March interactive session “[MD-PhD: Is It Right for Me?](#)”, and subsequently completed and approved by the [MD-PhD director panelists](#) for the June 18th, 2020 Interactive session. For the purposes of this document, unless otherwise stated, “MD-PhD” is inclusive of “MSTP MD-PhD” “Non-MSTP MD-PhD” and “DO-PhD” programs.

The information contained herein should be used as a helpful guideline by applicants and is by no means a guarantee. The list of resources at the end of this document was curated by current MD/DO-PhD trainees.

Table of Contents

[Financial](#)

[MD/DO-PhD Career Pathway](#)

[Training](#)

[International Students](#)

[COVID-specific Application Questions](#)

[Applications](#)

[Sources & Other Resources](#)

Financial

I am unable to pay for medical school applications due to the ongoing pandemic. My family and I have lost our jobs or summer internships. Should I defer application until my family is able to afford medical school applications?

Applying to MD-PhD programs is expensive, but need not be an impermeable barrier. Some of the costs are high, but generally only are incurred once. An example is the cost of preparing for and taking the MCAT. Another example is the cost of the infamous interview suit. Other costs go up the more places where you apply. Examples include application fees, travel costs for interviews, and the cost of staying in a hotel if the program doesn’t cover that for you (See [The Cost of Applying to Medical School — A Barrier to Diversifying the Profession](#)). Many programs will help to reduce these costs by waiving application fees, paying for your hotel, and/or putting you up with current students. Some will even help with travel costs, especially for re-visits. This year, travel and hotel costs may shrink drastically because of the COVID-19 pandemic, which for many programs will mean virtual interviews. Fee waivers frequently depend on meeting certain financial thresholds. Many programs are interested in helping people

to apply. After all, the cost of helping someone with the application-related costs is a drop in the bucket compared to covering tuition, fees and a stipend for an average of 8 years. **Bottom line: don't hesitate to ask the program.**

See [this site](#) from the AAMC for information about the fee assistance program and the higher income threshold this year.

To what degree should we communicate financial barriers to the programs to which we are applying?

All of the students in most programs are fully supported by the program (tuition, health insurance, fees, stipends). Reflecting on the many applications that we have reviewed, the people who are vague about the financial resources are usually at the high end of the family income scale. Our recommendation: share the information.

Are there loans, grants or other financial resources available to assist with application costs in general or specific to this pandemic period?

See the answer to the first question. **Again, many combined degree programs will do what they can to help promising applicants and don't mind being asked.**

Is there a protocol for how you choose to take a gap year after graduating from college? If I choose to work and support my family during this time, will I be seen differently than those that take a gap year to volunteer or do research?

For better or for worse, national data show that an increasing fraction of MD-PhD program matriculants are doing gap years after college graduation (Brass and Akabas, Applying to MD-PhD programs: why wait? Study in progress). It is not yet clear what is driving this change from the past. Some programs may in fact prefer applicants who have spent 1-3 years after college working fulltime in a research setting. Others may calibrate their expectations for publications and other accomplishments based on whether a research-based gap year has been taken or not. For example, someone who has spent 2 or 3 years working full time in a research lab might face an even greater expectation for a publication than someone applying after their junior year in college. In general, the default expectation is that a gap year will be spent in research. However, we would hope that all of us who run admissions committees are careful to consider individuals who need to work outside of research during or after college in order to support themselves or others. Recommendation: If you do a gap year and need to make money, try to find a research job that pays. There are lots of programs that do that. If you can't, then be sure to explain your choice in your application. That will keep programs from mistakenly assuming that you must not be that committed. Ditto if you need to work during college. We are all looking for a diverse array of applicants, including those who come from financially constrained backgrounds.

MD/DO-PhD Career Pathway

How do I know for sure that getting a dual-degree is right for me?

It is first important to understand how long the dual-degree program is. Getting your degree will typically take around 8 years and then you will either do a postdoc or pursue your residency, which can take another 3-5 years. That is a very long amount of time to dedicate to your learning. However, if you are interested in the intersection between scientific research and clinical medicine, and you would enjoy the process (even if it is a long one), then this may be the path for you. One resource that can help you navigate this decision is the transcript from APSA's recent interactive session, ["MD-PhD: Is It Right for Me?"](#)

What is the work-life balance like as a Physician-Scientist?

Varies widely, but there is not a lot of published data that we have seen. It is possible to be a physician-scientist with a fulfilling home life (however each person chooses to define that) and a family. Most of us do. However, expectations for us are high and some physician-scientists work long hours, but it is not necessary to do so to be successful. You must prepare by learning how to be efficient, set priorities, establish work boundaries and, if you choose to have a long term partner or spouse, learn to talk about finding solutions that work for both of you.

What are the benefits of pursuing a dual degree program over becoming a research MD?

Getting an MD does not train you in conducting research. Of course, these skills are necessary if you intend to pursue research, and you will most likely need to get a postdoctoral fellowship. MSTP programs offer full tuition and stipends through NIH grants, and several other (non-MSTP) MD-PhD programs offer reduced or full tuition as well. Therefore, MSTP programs offer an advantage in terms of tuition and fees.

What are the advantages of an MD-PhD over a PhD?

Getting an MD allows you to see patients and act and think like a physician. These insights may allow you to deepen your understanding of certain research questions and view them with a clinical perspective. There are also practical advantages to getting an MD-PhD, such as flexibility, career stability, and competitiveness in acquiring grants. However, you can still pursue health-related research questions with a PhD alone, and the amount of schooling for MD-PhD programs may not be worth it for you if clinical work is not part of your desired future career path.

How do MD-PhD graduates fare in residency in comparison to MD-only graduates?

In the majority of cases, remarkably well, especially when they apply to residency programs that are committed to training physician-scientists. Usually, the top residencies in a particular discipline support research-directed careers, thus trainees with strong backgrounds in scientific inquiry are very competitive for these residencies.

What is the typical balance between patient care and research? If I prefer to put more than the typical amount of time involved in patient care, can I do that?

In the [National MD/PhD Program Outcomes Study](#), two-thirds of MD-PhD program alumni were working in academia. Among those who answered the survey, the distribution of their time between research and clinical care varied widely from 100:0 to 0:100. You can do a mix of research, clinical care, teaching and administration if you are a professor. The alumni who spent more of their time on research were more likely to have research grant support.

Is it realistic to function as a physician, a PI, and a professor?

Many MD-PhD graduates go on to work at an academic institution. The majority spend most of their time doing research and spend part of their time seeing patients. Some take professorship positions. Your ability to manage your time is up to you. There is a finite amount of time per week and finding a healthy balance is a personal journey. One of the major advantages of this career path is that you have remarkable flexibility in how you spend your time. This can change over the course of your career, as your interests change and as opportunities present.

Can MD-PhDs pursue entrepreneurship?

There is nothing stopping an MD-PhD from transitioning to a career in entrepreneurship. However, there are MD/MBA programs if you are interested in entrepreneurship rather than research. If you know that is something that you want now, you can save a lot of time.

What are the most common residencies of MD-PhD graduates?

According to AAMC's latest [Report on Residents](#), the most commonly pursued specialty for MD-PhD graduates is Internal Medicine. Other commonly pursued specialties include pathology, psychiatry, neurology, and pediatrics. A number of MD-PhD graduates also pursue surgical specialties. These results are echoed in a study published by Dr. Brass and Dr. Akabas in JCI Insight, which you can read [here](#).

After completion of both degrees, does one need to complete a postdoc or residency?

The most common route is to pursue a residency program. This is because residency often allows for more job opportunities. However, residency programs can take anywhere from 3-7 years, which is a large time commitment if clinical work is not something you are interested in. Similarly, getting a postdoc is not necessary. However, if you intend to pursue research, this is a good path to further specialize in the field of your interest.

Training

How different are MSTP programs in comparison to non-MSTP MD-PhD programs?

The NIH uses the term "MSTP" to refer to schools that have been awarded special training funds to help support MD-PhD candidates. MSTPs may be more competitive, but the programs themselves are not otherwise different. The training and expectations when applying are generally the same.

How does the new change to Step 1 affect MD-PhD programs?

Too soon to tell what the impact will be on the residency application process, but we suspect that most students and most program directors are glad to see this happen, and are waiting to see what will happen with Step 2.

How easy is it to transfer to a different PhD field throughout the program? Must you decide definitively before applying or can you change before you begin your research?

While some programs may ask you to apply to a specific PhD program, many do not. Nonetheless, programs will ask you to specify and describe your research interests within your application. For most of these programs, your research interests and your decision to pursue your studies within a specific PhD program are not binding. For the most accurate source of information, it is advised that you look up the requirements of the MD-PhD programs you are applying to, and if it's not on the website, administrators are usually willing to answer these questions either via email or during your interview.

How closely does a PhD lab need to fit your research interests? If the PI studies a field of your choice, but maybe not the particular problem you want to focus on, could you work with them to branch off into a new area?

Before you choose a PhD lab and advisor, most programs will give you the opportunity to work short-term in a number of labs as a rotation student, usually for a few weeks at a time. Before you formally agree to a rotation, browse through the available labs at your institution, and if you can, find time to speak to the faculty that lead your labs of interest. As you do your rotation, think about whether you can see yourself committing to the lab's scientific mission for the next few years, and whether the lab's research interests align with your own. Also think about the other things the lab might be--or might not be--able to offer you in terms of other things that are just as important to your PhD experience, such as mentorship, camaraderie, opportunities to present at conferences, funding security, etc. Weigh these against how much the lab's research interests align with your own.

Usually, if you have a very specific research interest, as long as it is somewhat related to your lab's scientific goals, most faculty will support you in your endeavors to explore. Take time to discuss with your potential advisor, as well as other members of the lab, in terms of your suggested project's feasibility and whether the lab has the resources to pursue it.

Is it necessary to work with multiple labs, or can I stick with one lab?

This varies depending on the program. Before you start your PhD, most programs will give you the opportunity to experience labs of interest as a 'rotation student' for a few weeks. Some require you do a specific number of rotations, each within a different program. Others require one or no rotations, especially for those who have pursued research within that institution prior to entering the program, and know they want to continue their research in the lab they were in. At one point, your program will ask you to choose an advisor, under whom you will receive mentorship and execute your PhD project. Note that in some circumstances, you may have co-advisors, each representing a different, but related lab. For example, if you are studying cancer metabolism, you may find it helpful to have one advisor who runs a cancer biology lab, and another who runs a lab in metabolic biology. The policies on co-advising again, vary by program. Talk to your program's administrators and your advisors carefully as you choose what path is best for you.

How do MD-PhD students maintain their clinical knowledge during their PhD studies before starting clinical rotations?

A number of programs have opportunities for students in their PhD years to shadow physicians, participate in rounds, or discuss cases within their specialties of interest. Many programs will also offer PhD students at the end of their PhD studies a 'refresher' course that helps prepare

them for entering the wards. If the program you are accepted to does not have formally organized opportunities, contact practicing physicians in your field of interest at your institution.

Are patient contact hours necessary for an MD-PhD program?

At the end of the day, once you graduate from an MD-PhD program, you have earned an MD. Thus, in addition to training scientists, MD-PhD programs are also training future physicians. Thus, if you plan on pursuing an MD-PhD, it is imperative that patient care is important to you. Clinical experience that involves interacting with patients (whether it's by shadowing, volunteering, or working as a scribe--there are many options) is a way for you to show your commitment to patient care.

How do dual degrees in social sciences and humanities differ from your science-based PhDs?

Graduates often have similar tracks, spending a large amount of their time doing research while also seeing patients or having a professorship position. These programs are similarly geared towards academic scholarship. However, not all MD-PhD programs offer humanities or social science based research focuses. AAMC's [document](#) outlines which schools have such a program.

International Students

Are schools accommodating to international students with respect to interviews?

Many schools have moved to a virtual interview format due to travel restrictions both within and outside of the US. Research each school's policy or contact the school if necessary. If you are in a time zone that makes it difficult to schedule an appropriate time, feel free to reach out and voice these concerns if there are not any other options available.

As an international student, I am unable to enter the US or to leave my home country. If my home country's timeline for reopening is different than that of the US, will I be able to defer my start date?

Orientations themselves may be delayed due to the ongoing health crises. In either case, contact your institution and update them on your situation.

How does MCAT rescheduling impact students outside of the US?

The AAMC has posted an international testing [calendar](#).

Can I get NIH training funding as an international student?

Only US citizens and permanent residents (green card holders) can apply for NIH training grants (F30s, F31s). There are foundational grants, which are usually specific to an area of study (ex. melanoma), that may be open to non-US citizens.

COVID-specific Application Questions

What are the expectations for MCAT scores, extra curriculars, research, volunteer work, and physician shadowing for students applying during the pandemic?

Each school is handling their requirements differently during this time. Some schools have waived shadowing or volunteer requirements in light of the current situation. Make sure to check in with each school and confirm that any piece of your application that may be missing due to the pandemic has been waived. **If there are restrictions that prevent you from applying, you may reach out and explain what opportunities you had lined up and how they were impacted by the pandemic and social distance protocols.**

Overall, this situation is unprecedented, so it is difficult to predict how each school will take these barriers into account. Continue to monitor each school's website for additional information.

With the developing pandemic, many gap year and summer research programs are shutting down for the year. How can we remain competitive throughout the summer and fall in the absence of these experiences?

While many in-person experiences have been shut down, you can still show your commitment to service in other ways. For instance, volunteernewyork.org and [New York Cares](http://NewYorkCares.org) both list a number of opportunities for volunteers to help the community virtually--so you can engage in their work remotely. So does www.POHPS.org, a coalition of health professions students in Philadelphia. Some organizations also list in-person opportunities related to the COVID-19 relief efforts, if you are able to and comfortable with participating. In terms of research opportunities, reach out to faculty and ask if there might be a project you can contribute to virtually (ex. bioinformatics, database mining, literature review-based projects). You can also consider taking online bioinformatics, statistics, or coding courses (many of them are free -- check out Coursera, edX, and Codecademy) if you are unfamiliar with quantitative approaches to science.

Stay tuned, as APSA is releasing virtual resources for future applicants to MD/DO-PhD programs that have had to forgo planned summer research experiences because of COVID-19. Email briana.macedo@physicianscientists.org for more information.

The MCAT was canceled because of COVID-19. What now?

AAMC has released a [statement](#) addressing this concern and will be updating information regularly. As of right now, they are allowing students to reschedule exams at no cost. They are also allowing students to be refunded and they have expanded eligibility guidelines for fee waiving. They have added additional test dates that are available on their website. There is a new, shortened format for the test, which will be graded the same way. More information can be found [here](#). Exams taken June 19 through August 1 will receive expedited scores within two weeks. Throughout this process, **if you have any concerns about not being able to take the MCAT, or not receiving your scores in time, be communicative with the schools to which you are applying. Do not be afraid to reach out.**

I know that many programs discourage distance education and online classes for prerequisites. Will these suggestions be altered somewhat in the wake of COVID-19?

We cannot speak for all programs, **but many programs have already planned on accepting P/F grades and distance learning courses.** Some colleges are (or were) offering students the option of a grade or P/F. Some medical schools may ask you to explain why you opted for P/F if a grade was still possible.

In response to COVID-19, I was forced to go home, which is an unhealthy, unproductive or unsafe work environment for me. As a result, my grades went down and my ability to study for the MCAT effectively has been hampered. How should I deal with this situation? Will poorer academic results during this time be considered differently? Will I lose my chances of admission?
Some schools have added additional questions in their secondary application about how COVID-19 has impacted you. Either way, if your resume has been stellar up until this semester, the admissions committee will see that trend (they are smart people!) Ultimately, however, it is up to the committee to make these decisions. We understand that the current situation is complex and a lack of equity is apparent in every facet of this process. **Be proud of what you have been able to achieve during these times and remain confident in your abilities.**

My school transitioned to a Pass / Fail system in response to COVID-19. Will my application be viewed differently?

Each school is approaching this issue differently.

AAMC has provided additional [information](#) on this issue. The AAMC AACM does not consider Pass / Fails as graded work and therefore they do not count these courses towards your GPA. However, again, it is important to contact each school as they may approach this differently.

Applications

Is there a summary of which schools offer MD-PhD programs and how they differ?

Yes! The AAMC has a [document](#) with lots of important information in tabular form about different institutions.

Is there an advantage or disadvantage to taking a gap year after undergrad and before matriculating into a MD-PhD program?

Gap years offer a great opportunity to pursue full time research and potentially get published. Others even may get a masters degree. If there are aspects of your application that you feel may be lacking, a gap year may be a good time to fill in those gaps. Alternatively, if you prefer to get the experience in order to better prepare yourself, that is great too. However, they are certainly not necessary. If you feel prepared to start your degree right after graduating and you feel confident in your application, then there is no need to take time off. Please see the above answer on gap years for more information.

How much more competitive is an MD-PhD or DO-PhD program as opposed to a typical MD or DO program?

Both are competitive, but are evaluating applicants on different characteristics and career aspirations. MD-PhD programs often have higher acceptance rates than traditional MD programs, but they also have higher admission statistics, such as GPA and MCAT scores.

What advice would you give to someone who is waitlisted to all of the MD-PhD programs interviewed at?

Being placed on the waitlist is neither an acceptance nor a rejection. However, it is surely a nerve-wracking time. However, keep in mind that the applicant pool by this point for MD-PhD programs will be quite small. Around half of the students will most likely be chosen. Feel free to reach out with any updates in your application and let the school know if you are likely to enroll if accepted. **Do not be afraid of open and honest communication.** However, respect the time of the committee. **Be specific and concise. Do not send over too many notes.** And overall, the most important thing is patience and trust in the process.

Is it preferable to work in multiple labs prior to applications, or is a long standing history in a singular lab more important?

Having long-term experience in a lab is a great benefit. A longer history in a particular lab allows you to learn the background of the group's research goals and allows you time to grow and find your niche within that space. Furthermore, you will begin to grow stronger relationships with your mentor. You may even have the opportunity to publish a paper with the group. However, a diverse set of experiences is also helpful in allowing you to more easily adapt to different lab environments from your accumulated skillset. However, it is also important to commit to your research positions and use them as a learning opportunity. The skills and knowledge you gain through these experiences is exactly what admissions is looking for, since this enhances your scientist toolkit and allows you a successful path forward.

What's the minimum MCAT score / GPA / number of research hours required to apply?

In general, there are not any fixed numbers. Many factors come into play. However, each school has MCAT and GPA statistics for matriculated students. You should consider whether your statistics lie within a reasonable range of these values. However, this should not discourage you from applying if you have the resources to do so. The decision is ultimately yours to make.

I've heard that majors/minors don't matter for MD only. How is this similar or different for MD-PhD?

This sentiment is rather similar for MD-PhDs. However, the courses you take and the research you do is quite important for the PhD portion of these programs. It is important to demonstrate both the ability and passion to undergo meaningful research, and certain coursework can better prepare you for that goal.

How do MD-PhD programs conduct interviews?

Programs differ. However, they all select a certain number of students to interview and contact you. If you are not selected for an interview, you may be put into the MD pool depending on the institution. Interviews take place in the fall through the winter. For most institutions, interviews happen at their central location and you must fly in to have your interview and tour the area.

Due to the limited research opportunities at my undergraduate institution, I have found it difficult to obtain true and constructive research. The group I work with does not allow me the freedom for meaningful independent projects. Will this be held against me?

Summer research programs may offer you the opportunity to engage in more meaningful research. There are many such programs available and you should use these resources. However, do not be afraid to talk to your mentor or PI at your school and express your hopes for your research experience. Be certain to express gratitude and have a clear plan of action for what you would like to accomplish. It is true that MD-PhD programs prefer significant research. This is not only to ensure that you have the skills and knowledge to contribute significant research for your thesis, but also to make sure that this is something that you truly enjoy doing.

Is clinical experience sufficient for application or is physician shadowing necessary?

Clinical experience and physician shadowing both allow you to understand the typical day you will have as a physician or physician-scientist--both the enriching portions and the distressing ones. These experiences not only allow you to solidify your passion and readiness for the field, but further allow you to express that passion in an interview setting or in essays. There is no perfect formula to get into these programs. This aspect of your application is more important for you to understand where you fit in rather than a necessary prerequisite that must be done. In any case, additional experiences such as these are beneficial if they are available to you.

Do applicants apply for a specific PhD specialty?

This largely differs depending on the program. Visit the program website and look up their application requirements. Some schools may ask you to apply for a specific track; others may not. Nonetheless, most programs will ask you to describe your research interests, so be prepared. Note that most programs recognize that your scientific interests may change, so in the majority of cases your research interests/application to a specific program will not be binding.

Is dry research sufficient or is wet lab experience necessary?

Whatever field you wish to pursue, it is probably best to gather experience in that field as early as possible, so that you are as advanced as possible once you begin your lab rotations. It wouldn't necessarily be better to get wet lab experience if that is not what you hope to be doing in the future. However, there is also the caveat that your prior research does not necessarily have to mirror your PhD thesis field. The skills you gather along the way, regardless of the type of lab, will be invaluable moving forward. The skills you learn in a dry lab may in fact be particularly useful in a wet lab where computational tools and skills are needed but aren't currently available to the group.

Who should we ask to write our letters of recommendation? Do we need letters from every research experience we have partaken in, both over the summer and at our home institution?

Letters of recommendation should be from mentors or PIs who can evaluate your research potential. **Different schools ask for a different number of letters and some specify exactly where they can come from.** Some institutions also allow additional letters, in which case you expand the scope of research opportunities that are being represented. However, always remember that the more personal and specific the letter is, the more meaningful it is. Having these types of close mentorship relationships takes time.

Is the applicant's undergraduate institution important?

All aspects of your application will be considered, including your home undergraduate institution. However, this is of course not the most important aspect of your application. At this point, where you attend undergrad is not in your control. However, the other aspects of your application are much more in your control and you can stand out by your accomplishments moving forwards.

Is there any benefit to applying to both MD-PhD and MD at an institution, for the option to transfer into MD-PhD if accepted as MD-only?

Some schools do not allow you to apply for both. Furthermore, some schools allow you to transfer into the MD-PhD program after a year, while others do not. This depends on the specific institution, so you should look into which schools will allow you these options.

Sources & Other Resources

Past APSA sessions:

[MSTP Applications](#)

[Past Interactive Sessions](#)

Costs:

[Millo L, Ho N, Ubel PA. The Cost of Applying to Medical School -- A Barrier to Diversifying the Profession. N Engl J Med 2019; 381:1505-8.](#)

[Coronavirus \(COVID-19\) and the Fee Assistance Program \(AAMC\)](#)

Other Published FAQs:

[An FAQ for MD/PhD Applicants \(Science\)](#)

[FAQ About MD-PhD Programs and Careers \(AAMC\)](#)

Applying in the time of COVID-19:

[Applying to MD/PhD programs in the time of COVID-19: a webinar from San Antonio UTHS MDPhD program](#)

MD-PhD Outcomes:

[Brass LF, Akabas MH. The national MD-PhD program outcomes study: Relationships between medical specialty, training duration, research effort, and career paths. JCI Insight 2019; 4\(19\):e133009.](#)

[National MD-PhD Program Outcomes Study \(AAMC; Akabas, Brass, and Tartakovsky\)](#)

[Report on Residents \(AAMC\)](#)

MCAT:

[Coronavirus \(COVID-19\) and the MCAT Exam \(AAMC\)](#)

[COVID-19 Changes to the MCAT Exam Administrations: May 29 - September 28, 2020 \(AAMC\)](#)

[US Territories and International MCAT Testing Calendar \(AAMC\)](#)

Deciding to pursue an MD-PhD:

[APSA Interactive Session: MD-PhD: Is It Right for Me?](#)

MD-PhD Programs:

[MD-PhD Program Policies \(AAMC\)](#)

[MD-PhD Dual Degree Training \(AAMC\)](#)

Grading Notations for AMCAS:

[Guidance on Grading and Transcript Notations in the AMCAS Application \(AAMC\)](#)

Mentorship:

[List of Potential MD/DO-PhD Mentors \(current trainees + faculty\)](#)