

# Postbac Premed Programs: What Advisors Need To Know

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## **Introduction**

### **Overview**

The “traditional” path to admission into a health professions program requires that the applicant complete specific coursework and gain clinical and nonclinical experiences years before submitting the professional school application itself, typically beginning early in the undergraduate years. However, students who decide

to pursue the health professions after completing their undergraduate education, decide too late in their undergraduate years to complete required prerequisite coursework, find that their undergraduate education was insufficient preparation, or who seek additional opportunities to demonstrate improved academic performance, need something more than what that traditional path can offer. Enter postbaccalaureate (postbac) programs.

**Postbac Premed Programs: What Advisors Need To Know** (continued)**Historical Perspective: NAAHP**

"Postbaccalaureate" most simply refers to coursework after baccalaureate studies, but the category of postbaccalaureate pre-health programs is more nuanced and complex than this simple definition implies. (For the purposes of brevity, we will call this category of programs "postbac" or "postbac programs"). While postbac education has a long history in education, its history with NAAHP dates back to the late 1990s, when a team of our NAAHP colleagues, including Carol Baffi-Dugan, Gale Lang, Jodi Domsy, and Jodi Olson, created a Post-Baccalaureate Programs Pre-Conference before the 1998 NAAHP Conference. Later, members of this same group spearheaded the creation of an NAAHP Post-Bac Interest Group, first chaired by Jodi Domsy. The Interest Group was then shifted in 2017 to the standing committee called the Postbac Committee that exists today (A. Tan, personal communication, 2023, April 19). This committee works to "represent the large and highly diverse population of postbac programs nationwide, and to educate health professions advisors about postbac programs so they can best support their students in selecting and applying to programs" (NAAHP, 2023).

**Disclaimer**

The authors acknowledge that, in reality, there are as many subtle differences between types of postbac programs as there are programs. Each program has its own unique blend of advising, extracurricular activities available, and even course offerings. However, the categories we suggest, which we based on the descriptions in the [AAMC postbac database](#), seem logical to help advisors point the right students to the right programs. Therefore, categories as such professional science master's programs and MAs are not discussed here.

We also want to acknowledge that we are using the term "health professions program" as an umbrella term to mean medical school, dental school, PA school, PT school, pharmacy school, etc. However, most postbac programs serve as educational opportunities for students whose primary goal is attending allopathic or osteopathic medical school. Therefore, while generally applicable across various pre-health disciplines, most of the information we provide focuses on premedical programs.

**Program Overviews****Number**

At the time of publishing, the AAMC Postbaccalaureate Premedical Programs database lists 317 programs (AAMC, 2023a); while any program associated with an accredited educational institution can list its program without cost, not every program is listed. This means that there are likely to be substantially more than 317 currently active postbac programs. Despite being incomplete, the AAMC postbac database currently offers the most exhaustive list of available

postbac programs, and because it can readily be searched by applying filters (i.e., career-changer, academic record-enhancer, location, etc.) to narrow the list, this is probably the best place for prospective students to begin looking for a postbac program. Wouldn't it be wonderful if choosing the right postbac was equally simple?! (For more information on the number of specific types of programs, see each program-type section below.)

**Definitions**

Postbac programs are most fundamentally categorized as either **career-changer** or **academic record-enhancer** programs (**Figure 1**). The simplest way to differentiate between these two categories is from the very practical perspective of the academic classes offered. **Career-changer programs** provide a way for students to complete lower-division science prerequisites (e.g., General Biology I & II, General Chemistry I & II, Organic Chemistry I & II, and General Physics I & II; course names vary by institution), while **academic record-enhancer programs** will assume these prerequisite courses have already been completed and offer higher-level courses (**Appendix 1**). Categorizing all postbac programs into either a career-changer or academic record-enhancer is unquestionably an oversimplification but is nonetheless a useful way to begin to navigate the complexities that are inherent to such a diverse collection of programs.

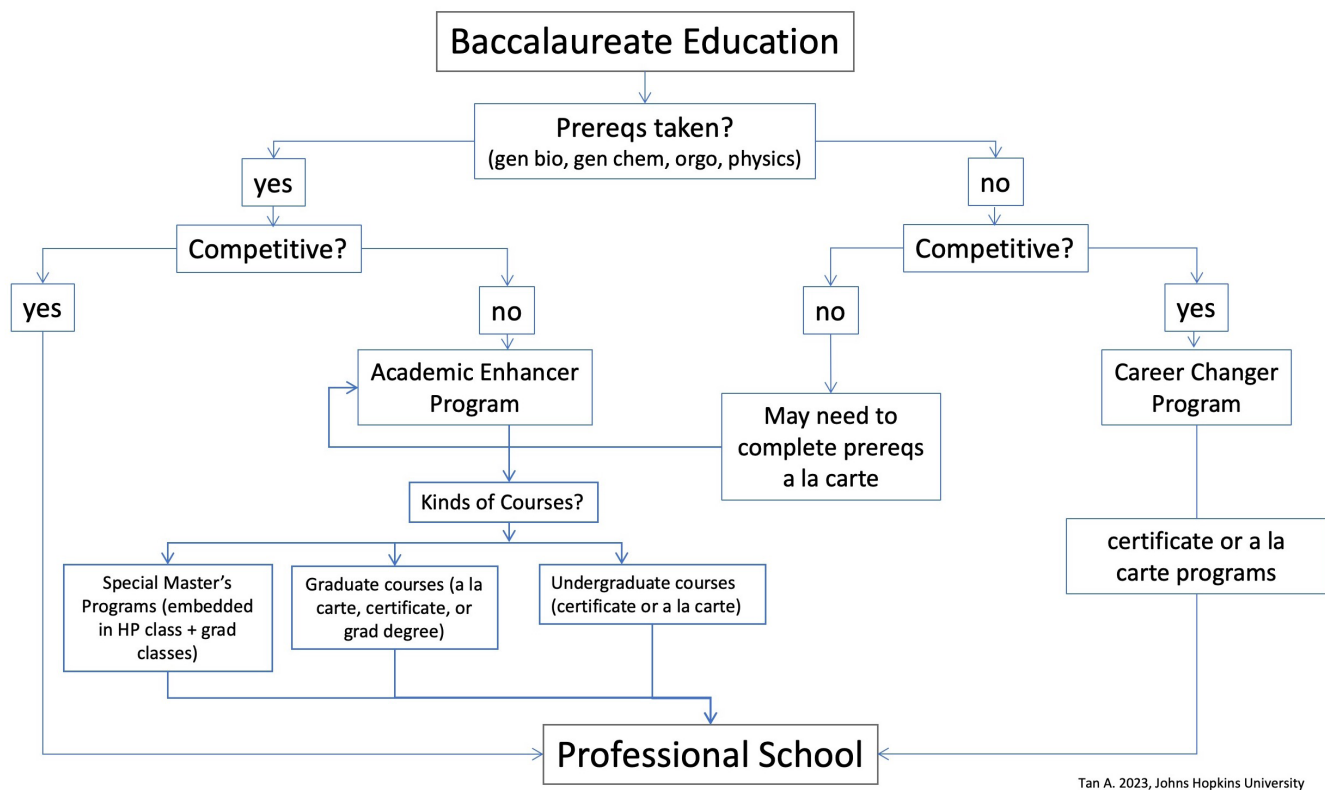
The simplistic differentiation between career-changer and academic-enhancer postbac programs first helps us to understand the roles that different types of programs can play in supporting students whose path to a health professions career is nontraditional. For example, students who have not completed the prerequisite courses required for admission to their chosen professional school are called "career changers." Career changers come from academic disciplines adjacent to the classic pre-health paths (e.g., nursing or psychology) to far-afield disciplines (e.g., music, art, literature, accounting, business) and everything in between. Career changers may be just out of college or have actually had a career in another field. The unifying factors are generally a lack of high-quality knowledge about how to proceed, the need to complete most or all the prerequisite coursework, and often a well-developed skill set in another discipline. The role of career-changer postbac programs then becomes meeting these specific needs.

Academic-enhancer students, on the other hand, have already completed the prerequisite courses and were likely part of a pre-health track as undergraduates or in a discipline closely associated enough to have shared coursework. In contrast to career-changer students, they usually have a long history of related experiences as well as more knowledge of the pre-health field when entering the program (although it's a different question whether what they "know" about the path is accurate). Because these students have

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already completed prerequisite courses, they bring with them a science GPA (BCPM) with ~30 semester credits or more of legacy coursework; further, since students who have completed prerequisite courses are likely to already be eligible for applying

to health professions programs, their interest in postbac programs can be a reflection of poor performance in coursework, but this is not the only reason students may pursue a postbac program that offers upper-division coursework.



**Figure 1. Advising flowchart.**

But the landscape is more complex and nuanced. Postbac programs vary widely in their course offerings and resources, admissions eligibility, academic support services available to students, standardized test preparation, pre-professional skills training, and linkage to professional programs. For example, whereas one career-changer program may consider a student who has completed all but two of the prerequisite lower-division courses ineligible for admission, a different academic record-enhancer program might consider the same student ineligible for the same reason. Now what?

**Hybrid postbac programs** play an important role in merging the qualities of both career-changer and record-enhancer programs, providing opportunities for students who might otherwise fall between the cracks. (Note that we are implying a rigidity to these programs that may exist in individual career-changer and record-enhancer programs but varies widely across the entire landscape of programs. Check individual programs to understand how each determines eligibility). Hybrid programs may be an intentional facet of a program that seeks to provide broader access to coursework and resources, or they could be the result of a career-changer program and a

record-enhancer program sharing administrative personnel and allowing students to move between both to meet their needs.

Some students may find that the structure of a postbac program is contrary to, or even hinders, their personal or academic needs; these students may prefer a **DIY postbac**. A DIY postbac is not actually a postbac “program” at all but is instead an educational space that allows postbac students to cobble together their own individual programs (and sometimes resources). Most often these are spaces that offer open access to relevant classes but lack policies that govern which courses are open for enrollment, the number of courses (or credit hours) students can or must take, and the academic pace required for completion, because these are the most difficult aspects to administer and manage. DIY options may also lack additional resources for students, including valuable health-professions-focused advising and application support that are frequently offered by conventional postbac programs.

Alternatively, DIY students may complete relevant coursework through programs that are not specifically designed for pre-health students but nonetheless offer the needed classes.

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Such ‘off-label’ use could mean that, while there may be ample support outside the coursework, the program may not support the specific needs of students pursuing a pre-health path. For students to be successful with DIY programs, they should also consider arrangements that allow access to pre-health professions advising, services, and support. Because undergraduate advisors who support coursework decisions may not be familiar with the intricacies of health professional school application timelines and processes, DIY students may find themselves at a competitive disadvantage despite having an equivalent GPA and test scores to a student who has completed a postbac with advising support. Thus, while a DIY approach can provide benefits through its flexibility, these students will need to find alternative sources of dependable and accurate information in order to translate their academic success into an effective and efficient strategy for successfully achieving their goals.

**General Program Resources**

Postbac premed students within a structured cohort program have prescribed coursework, which is typically exclusive to the students of the program, and are therefore able to register for required courses in sequence, as opposed to non-degree-seeking students (including DIY postbac students), who are often the last group eligible to register. Therefore, students know how and when they will take each course within a prescribed timeframe. Additionally, formal programs typically have dedicated advisors, giving students easy access to sage advice about the application process. Non-degree-seeking students attempting to take classes may face more competition for time with premed advisors. Formal postbac programs often have extracurricular opportunities for gaining clinical experience, getting involved in research, or participating in community service. It is generally understood that health professions programs value these experiences, and participation in them could help set applicants apart in the admissions process. Lastly, some programs have linkage options where students can apply during the postbac year to a health professions program. Successful linkage applicants start medical, PA, or dental school soon after completing the postbac program.

Many postbac programs provide support to applicants in their “gap,” “glide,” or “growth” year. This is a term used for the time between completing postbac work and starting a health professions program. Advising during this time is important as applicants may need interview practice, have questions about secondary applications, or want to discuss strategies for turning a waitlist offer into an accepted offer. If an applicant ends up without any offers, strategizing on how to reapply as a more competitive applicant will require continued advising. Applicants to formal postbac programs should verify how long they can continue to work with an advisor after the completion of the program.

Professional development opportunities offered in postbac programs are also an important consideration. Many programs offer seminars or courses involving current topics in healthcare. Topics such as health disparity, social determinants of health, healthcare economics, and preparing for the next pandemic are certainly relevant for anyone considering a health professions career. Students who have some exposure to these topics and start to develop a well-thought-out opinion may have an advantage, both in the interview process for health professions programs as well as upon re-exposure to the material during the health professions curriculum.

**Career-Changer Programs****Overview**

Historically, career-changer programs have catered to premed students, but some do accept other pre-health students, including pre-PA, pre-dental, pre-vet, and pre-PT students. Given the proclivity of these programs to cater to premed students, course offerings tend to include the core science courses required by most medical schools. These include two semesters of each of the following with lab: biology, general chemistry, organic chemistry, and physics. Additionally, biochemistry is usually offered as a stand-alone course or covered within the organic chemistry curriculum. Some programs have additional courses related to health policy or optional science electives.

While all career-changer programs offer students the opportunity to take requisite coursework, program offerings fall into three broad categories.

**Types****Structured Cohort**

Allowing the least amount of coursework flexibility, structured cohort programs offer a specific curriculum that follows a prescribed course over a set period of time. Students typically take the same coursework, beginning and ending the program at the same time. Often, programs are set up around the medical school admissions timeline, such that students complete the program just before the opening of the medical school admissions cycle. For applicants who are ready, this allows for a favorable admissions timeline, whereby applicants can take the MCAT and complete the application process early, thus being among the first applications reviewed. Typically, an in-house MCAT or DAT test prep program is part of the curriculum. Given the prescribed curriculum of these programs, they tend to be best for premed and pre-dental students who have the most standardized prerequisites. Applicants to other healthcare professions (PA, PT, OT, pharmacy, etc.) have less standardized prerequisite coursework; thus, those applying to these programs may require additional coursework after completion of the postbac program. In some cases, students in structured cohort programs can make limited course substitutions. Typically, programs in this category are full-time and can be completed in one year.

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Structured cohort programs tend to have a favorable faculty-to-student ratio, with anywhere from 30 to 70 students per cohort (AAMC, 2023a). This allows an optimal environment for learning complex science concepts when compared to typical undergraduate basic science courses, which may have as many as 200 students per class. Additionally, the small cohort size allows premed advisors within the program to get to know students personally and provide more personalized advising. Many of these programs provide a committee letter of recommendation with or without additional letters of recommendation (i.e., a composite letter) or an individual letter of recommendation in support of the candidate's admission to a graduate medical program. In addition, most of these programs may offer a certificate of completion.

**Structured Cohort Within a Program**

Some postbac programs exist as a cohort of students who take classes together within larger basic science courses at a college or university. These programs can allow more flexibility in that students can opt out of previously taken courses and take other science courses that may better prepare them for their chosen graduate medical program. For example, student A may have taken basic biology. This student could then select genetics or microbiology, which could prove useful in preparing for the MCAT or DAT and also be a great foundation for the first semester of medical school. As part of larger courses, students have the benefit of interacting with other students pursuing STEM degrees while still having the support of the members of their cohort who have similar professional goals. Additionally, they may have the same benefits as structured cohort programs—access to advisors, administrative support, and extracurricular activities that may be beneficial in graduate medical program admissions. Many of these programs also provide access to MCAT or DAT preparation courses. However, individuals who want/need more faculty attention may find they have to compete with a much larger pool of students. Therefore, this may not be the best program for students with a minimal science or math background; they may benefit from a more favorable faculty-to-student ratio.

**Unstructured, Non-Cohort**

Providing the most flexibility, unstructured programs allow students to take both basic science courses and upper-level science courses to meet the requirements of the specific health professions program to which they plan to apply. This option is particularly suited to students who are not quite sure which medical career they will ultimately pursue. Additionally, some nonstructured programs allow students to take day or evening classes, which works well for those who have work responsibilities. Unstructured programs also have more flexibility in terms of the completion timeline. Access to advisors varies by program, with some

unstructured programs having their own advisors and others requiring students to seek out undergraduate pre-health advisors.

***Program Numbers and Features***

At the time of writing, the AAMC website shows 88 programs that are promoted as career-changer postbac programs and offer the prerequisites for medical school (AAMC, 2023a). However, after reviewing all programs listed, we have determined that only 44 of these appear to actually offer options specifically for those wanting to take the basic sciences required for most medical schools. PostbacCAS, Liaison's centralized application service, lists 55 programs that are for either career changers or for career changers and academic record enhancers (Liaison, 2023).

A review of the career-changer postbac programs on the [AAMC website](#) reveals that these programs come in many varieties. Most would be considered unstructured, where students are given priority registration and access to advisors to help them meet their goals. The minority are true cohort programs where students take all classes together with faculty who only teach within the program. Of note, there are many postbac programs that offer tracks for career changers and academic enhancers. Program enrollment varies from one to 250 students. Larger programs tend to be unstructured and offer both academic-enhancer and career-changer tracks.

Some programs have linkages or affiliation agreements with health professions programs. This means students who meet certain requirements around GPA or MCAT scores can apply to go directly from postbac to a health professions program or, at a minimum, have a guaranteed interview. Of the 44 career-changer programs listed on the AAMC website, 12 mentioned one or more affiliation agreements.

***Admissions Requirements, Application Process, and Costs***

Career-changer postbac programs require applicants to have a bachelor's degree at a minimum. Some schools require this to be from an accredited U.S. or Canadian institution of higher learning. Students with degrees from foreign colleges or universities should check with the individual postbac program for requirements. Some require a standardized test like the SAT, ACT, or GRE. Generally, schools look for some evidence of experience working or volunteering in a clinical setting. Additionally, since longitudinal community service is highly valued among many medical schools, postbac programs may like to see this in an applicant's admission packet as well. Given the short duration of most formal career-changer postbac programs, advisors should recommend that students considering competitive health professions programs like medical, dental, or PA school begin seeking out shadowing

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or clinical experiences and community service before starting a postbac program.

For the 22–23 PostbacCAS application cycle, applicants paid \$130 for the initial application, which includes a single school, and then \$45 for each additional school. Individual schools may require an abbreviated secondary application and fee. Typically, applicants send in undergraduate transcripts to be verified by PostbacCAS, although some individual schools also verify transcripts. A personal statement and a list of relevant activities are often required. Additionally, many schools require letters of reference (1–2 is typical). For many formal, cohort-based programs, a minimum GPA of 3.0–3.25 is required/recommended, with special attention given to any science or math courses taken (AAMC, 2023a).

Many competitive career-changer programs require an interview as part of the admissions process. Historically, these have been in person, but more recently, programs have been opting for virtual interviews. As we become more removed from the pandemic, schools may begin to revert to face-to-face interviews. Given the different feel of urban, suburban, and rural campuses and other factors such as an association with teaching hospitals, applicants are encouraged to visit programs—when possible—to assess fit. Admissions is usually rolling, so applicants should be encouraged to apply as early as possible in the admissions cycle.

The cost of career changer postbac programs can vary depending on the institution, program length, location, and other factors. The per-credit cost, at the time of writing, is anywhere from less than \$500 to up to \$1600. For programs that report an annual tuition, costs vary from less than \$10,000 per year for in-state students to more than \$50,000 per year for some private institutions (AAMC, 2023a). Eligible applicants may qualify for Title IV federal student loans. Since the Free Application for Federal Student Aid (FASFA) year goes from fall through summer, programs with summer starts require applicants to fill out the FASFA application for both the current and the next academic year to apply for financial aid for the full duration of the program. Additionally, many programs qualify for veteran educational benefits, so qualifying applicants should check with specific programs for eligibility. Many career-changer postbac programs have limited scholarships for applicants who qualify based on need or merit. Given the rolling admissions process of most programs, these are typically offered on a first-come, first-served basis; therefore, advisors should encourage applicants to apply early and ask about scholarship availability.

**Curriculum**

As mentioned above, career-changer programs provide a way for students to complete lower-division science prerequisites

(e.g., General Biology I & II, General Chemistry I & II, Organic Chemistry I & II, and General Physics I & II; course names vary by institution).

**Outcomes**

Some programs quote acceptance rates for health professions programs from the previous admissions cycle. This varied anywhere from 32 to 100%. Obviously, these numbers change from year to year, but some of the older, more established programs quote success rates near 100% on their websites using aggregate data.

**Challenges and Limitations**

The average time to completion of structured career-changer programs is 12–15 months. It's important for advisors to understand that this accelerated timeframe makes the curriculum extremely challenging for students who have limited science or math backgrounds. Additionally, the short timeframe may mean that some students may not yet be ready to apply to a health professions program directly after their postbac program. Some students may need additional time to gain clinical experience, do research, or take additional science courses to improve their science acumen. It's important to advise students considering this type of postbac program to begin gaining these other important experiences before starting their postbac year or to expect to take an additional year after the postbac program to gain these experiences before applying to a health professions program.

Lastly, students should be encouraged to reach out to specific programs to check for any math prerequisites or recommendations, as all basic science courses require proficiency in at least algebra. Career changers may be tempted to take graduate-level courses without having already taken all of the prereqs. However, the elevated expectations associated with graduate-level courses also carry some additional risk. Consider, for example, how a professional school admissions committee might rate an A grade in a 300-level biochemistry course compared to a B grade in a 500-level course in rating an applicant's potential: is the potentially negative effect of the lower grade on the student's GPA offset by the perceived benefit afforded by the additional academic challenge? Advisors should be prepared to have these conversations.

**Academic-Enhancer Programs****Overview**

Academic-enhancer programs are designed to bolster the professional school applications of students with undergraduate GPAs that make them borderline or non-competitive for their school(s) of choice but who have already taken the prerequisites. These programs can also be helpful to those who have taken time away from

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full-time academic pursuits and wish to refresh their time management and study skills, or who desire to take advantage of linkage (i.e., a guaranteed interview) to a professional school.

A common example is the student who has a lower-than-average GPA, perhaps because of struggles early on (i.e., a C in General Chemistry during freshman year). Although many of these students subsequently earned higher grades in their 300- and 400-level science courses, the upward trend was insufficient to increase their cumulative GPA to a competitive level. These students have figured out what they need to do to excel in their coursework (e.g., refine study skills, exercise diligent time management, etc.), but they still need more opportunities to demonstrate their ability to admissions committees.

There are several other types of academic-enhancer programs: undergraduate and graduate certificate (or non-certificate) programs; master's degree programs (thesis-based); and special master's (non-thesis-based). Additionally, some students may wish to try to enhance their GPA by doing their own DIY enhancer program.

***Types*****Formal, Structured Undergraduate and Graduate Certificate Programs**

Certificate programs offer students robust and structured academic opportunities that are in many ways similar to traditional degree-granting (i.e., master's) programs. However, the number of credits earned in a certificate program is lower than what is required to complete an MS degree, and students can therefore complete the certificate in substantially less time; many certificates require only two semesters of coursework. Like traditional degree-granting programs, certificate programs offered by accredited universities adhere to familiar and established academic standards, including in-program GPA requirements for earning the certificate. Certificate programs serve an important niche in the pre-health education ecosystem by offering specialized curricula designed to address the needs of students who either require additional preparation or seek additional opportunities to demonstrate academic excellence before submitting an application for admission to professional schools.

Certificate programs typically offer either undergraduate- or graduate-level coursework. Undergraduate programs are more likely to offer flexible course scheduling and may cater to a wider variety of pre-health professions than graduate programs. Graduate certificate programs tend to be more focused on a specific discipline (i.e., medicine or dentistry) and offer 500- and 600-level science courses in similar topical areas. Graduate-level courses are often characterized by higher

academic rigor than their undergraduate counterparts, and students who enroll in such programs should prepare to be academically challenged.

Similar to many first-year professional school curricula, graduate-level courses are often team-taught, requiring students to adapt to different teaching styles, pedagogical methods, accents, and course content on-the-fly within a single semester. The study and time management skills that successful students will hone while in a graduate certificate program will also be needed for success in professional school, and students who master these techniques are likely to reap dividends once they matriculate into professional school. Graduate programs may therefore offer opportunities for students who were academically strong undergraduates (and may not require a postbac experience to be competitive for professional school admission) to enhance their academic skills, demonstrate success in the face of an academic challenge, and further raise their competitiveness for admission into highly selective medical, dental, and other professional schools.

In addition to didactic coursework, many certificate programs also integrate pre-health advising, application preparedness training, standardized test preparation, letters of recommendation, tutoring and student support, writing workshops, and other "ancillary" training modalities that are necessary for students to develop a successful professional school application portfolio.

Although most formal, structured programs are certificate-bearing, there are some programs that are structured similarly to what is described above that are non-certificate programs.

**Master's Degree Programs**

Traditionally, a master's degree in one of the basic sciences (i.e., anatomy, biochemistry, immunology, microbiology, neuroscience, physiology, pharmacology, etc.) requires a period of directed research followed by the satisfactory completion of a written thesis and the passing of an oral thesis defense. In contrast to undergraduate and graduate certificate programs, most MS degree programs require about 2 years to complete (however, see special master's below for some exceptions to this rule). The training and advanced competency in didactic coursework, written and oral communication, experimental design, and research methodologies that MS programs confer can provide a competitive advantage during the health professions program admissions process.

Nearly all major universities that offer PhD training also offer MS degrees in similar disciplines, so opportunities and options are numerous. Postbac programs that are specifically designed to simplify the process of selecting an appropriate

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master's degree program and to provide the academic advising and support that pre-professional students often need and desire are now available at a wide range of accredited universities. Many of these MS programs are also hosted by institutions that also have professional schools, so they can offer opportunities to gain additional clinical experience, convey linkage to their professional school, and provide a ready-made network of faculty and providers to enrolled students. In some cases, the MS program may be separate from, but linked to, a graduate postbac; this design can offer students the option to choose whether they want to continue working toward an MS after having completed a certificate. Linked certificate-master's programs, which are less common than stand-alone MS programs, may allow course credits earned during the certificate year to be counted toward the MS degree completion requirements, allowing students to complete the master's degree within one year of having finished the certificate.

Students in an MS (thesis-based) program may apply directly to professional school; however, many students that take this path often find an interest in research and decide to pursue a PhD rather than professional school. These programs are tailored for students on the PhD route and, as such, provide guidance and advising towards success in those programs rather than professional school.

**Special Master's**

Increasingly, postbac programs are offering MS degrees that do not require a thesis or defense. A major advantage of such "special master's" programs is that they typically require less time to complete than a thesis-based MS degree: typically, one academic year. These programs focus on graduate-level coursework, giving students an opportunity to demonstrate their ability to handle a more intense course load, similar to that given in a professional school setting.

These programs tend to be feeder programs for professional schools, resulting in most students entering a professional school within a year of completing the program. Many special master's programs are associated with health professions programs. This association may include opportunities for students to take professional school classes alongside first-year professional students. In addition, courses are often taught by professional school faculty, many of whom sit on the admissions committee. Programs associated with a professional school may also have a link with admissions, such as guaranteed acceptance or an interview with the attainment of a certain GPA in the fall semester. With these aspects, the program may be thought of as a year-long interview. When integrated with pre-professional advising, standardized test preparation, professional skills training (e.g., writing personal statements, mock interviews) and networking, and clinical experience, this can be a compelling option for students

who do not seek the research experience associated with a traditional MS degree.

**Program Numbers and Features**

Similar to career-changer programs, academic enhancer programs come in many varieties. The [AAMC postbac premed database](#) currently has 143 programs listed when using the "Academic Record Enhancer" or "Academic Competency Enhancer" filters. A quick review reveals that some of these may no longer be in existence. As a matter of fact, at the time of writing, the database currently has the disclaimer that the site is currently being updated. Most of these programs appear to be master's level programs, with fewer being undergraduate programs. Additionally, many of these programs appear to have both career-changer and academic-enhancer tracks, and some appear to be hybrid programs offering the option to finish core science courses and take upper-level science courses within the same program. Of note, of the total 71 schools listed in PostbacCAS by Liaison, 27 are categorized as academic-enhancer programs, and 33 are listed as academic-enhancer and career-changer programs. (Liaison, 2023).

**Admission Requirements, Application Process, and Costs**

Admission requirements vary among programs and schools. For academic-enhancer programs, admissions committees are looking for overall competence in prior prerequisite science courses. Most programs will overlook a few Cs early in the applicant's academic career, provided that the student has a reasonable explanation and, ideally, has subsequently demonstrated increased academic achievement in other courses. Because the level of academic rigor varies among different postbac programs, specific admissions GPA requirements will commensurately vary. It's advisable to learn as much as possible about the level of academic rigor in a prospective postbac program and about average admissions metrics to find the best match for the prospective student's ability and future goals.

For MS (thesis-based) and special master's programs, a bachelor's degree is required. Most require prereq courses related to a foundation in the sciences (8 credit hours each of biology, chemistry, and physics and a math course). Most programs also require a standardized admissions test, such as the GRE. Special master's programs may also accept the MCAT, DAT, OAT, PCAT, or other professional admissions exams, particularly if they are associated with a professional school. For the GPA, admissions committees are often looking at an upward trajectory in grades (often focusing on the last three semesters of coursework) and will consider this over the cumulative GPA, particularly for special master's programs.

Many undergraduate and graduate certificate programs and MS programs allow students to directly apply through the university's main admission portal. Graduate certificate,



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MS, and special master's programs may utilize a centralized graduate admissions portal, [GradCAS](#), that is distinct from their university's undergraduate admissions. Similar to career-changer programs, some undergraduate academic-enhancer programs also subscribe to the Liaison PostbacCAS system, allowing applicants to send applications to multiple programs for an additional fee. Applications require the submission of undergraduate transcripts, a personal statement, a list of extramural activities (or curriculum vitae), letters of recommendation (typically 2-3), and sometimes responses to program-specific questions. Personal statements should reflect how the program will help students reach their goals, which is separate from the personal statement they may have drafted for professional school.

Academic-enhancer postbac program costs vary. A review of the AAMC postbac database using the academic enhancer filter shows tuition can be anywhere from \$17 to \$40K. Public school programs with in-state tuition tend to be on the lower side, and private school programs tend to be higher. (AAMC, 2023a). Tuition costs for certificate and special master's programs also vary widely and are typically higher than per-credit tuition fees or standard undergraduate tuition at the same university. Similar tuition variability is observed with MS (thesis-based) programs; however, some programs offer research or teaching fellowships that can offset tuition expenses and may also include a stipend for living costs.

**Curriculum****Postbac Programs**

Academic-enhancing postbac programs typically offer either undergraduate (300- to 400-level) or graduate (500- and 600-level) coursework. Undergraduate- and graduate-level courses are likely to have very different expectations of students' foundational knowledge and completed prerequisite coursework. For example, successful completion of a 500-level biochemistry or physiology course may require undergraduate coursework in organic chemistry and/or biochemistry, whereas general chemistry is sufficient for the analogous 300-level courses. Graduate-level courses are also often taught at a faster pace, often involve multiple different instructors rotating throughout the semester, and may evaluate student success using more rigorous criteria (i.e., longer tests covering a wider breadth of material, use of more difficult MCAT-style question design, etc.).

Graduate-level coursework can also be particularly valuable for students who exhibited high academic achievement in their prerequisite undergraduate science curricula but have taken time away from academics to gain clinical or work experience, teach or travel abroad, or start a small business and now seek admission to a health sciences professional school. Because graduate-level courses typically demand higher academic rigor and are thus more similar to first-year professional school

curricula, students who demonstrate academic excellence in graduate postbac programs may realize benefits that extend beyond enhanced competitiveness for admission.

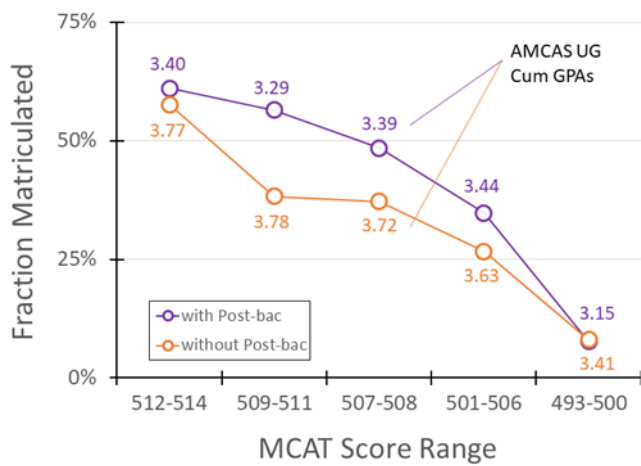
**Master's Degree and Special Master's Programs**

In an MS (thesis-based) program, students typically take topic-specific graduate-level courses along with seminars and writing preparation courses during their first year. They also identify a thesis mentor and begin developing a thesis project proposal. The second year focuses on completing the research required for the thesis project. The completion of the program is assessed by a written and public oral defense of the project. In contrast, special master's programs focus exclusively on coursework to prepare students for professional school. Students will typically take 17–22 credit hours per semester of graduate-level coursework. The program is typically completed within one academic year. The courses and course load are designed to mimic the intensity of professional school, giving the student the opportunity to demonstrate they can handle the coursework expected of a professional student. As part of special master's programs associated with professional schools, several courses may be part of the professional school curriculum where the students are taking them alongside first-year professional school students.

**Outcomes**

The primary goal of postbac programs is to enhance their students' competitiveness for admission to professional schools. Available data and the combined experience of program directors and health professions advisors suggest that academic-enhancer postbac programs can substantially increase the professional school admission rates of graduates that successfully complete them. In one example, acceptance rates of graduate certificate students who completed their program and applied to MD programs in the United States between 2016 and 2021 were compared to a control cohort that did not pursue postbac training (**Figure 2**).

Focusing on students with MCAT scores in the combined 509–511 range illustrates that 42/79 (53.0%) of the postbac certificate earners matriculated into medical schools, whereas 118/312 (38.0%) of the control group achieved that goal (Ramsey, 2023). Importantly, the average cumulative undergraduate (cum UG) GPA of students who completed the postbac (3.34) was substantially lower than the cum UG GPA of the control group (3.77). By comparison, the average acceptance rate for all 2021–2022 applicants to MD-granting schools in the U.S. was 36.0% for students in the 3.20–3.39 cum UG GPA and 506–513 MCAT score range and 48.4% for students in the 3.60–3.79 cum UG GPA and 506–513 MCAT score range (AAMC, 2022, Table A-23). In summary, postbac certificate graduates fared better than non-postbac applicants with equivalent MCAT scores and better than students with substantially higher undergraduate grades.

**Postbac Premed Programs: What Advisors Need To Know** (continued)

**Figure 2. Postbac program outcomes 2016–2021.** These are AAMC medical school admissions data for graduates of an example graduate certificate program compared to a control group without postbac experience. Data represent the percentage of applicants that are reported to have matriculated into a U.S.-based MD-granting medical school as reported by the AMCAS Advisor Portal Information System. Colored numbers indicate average cum UG GPAs for students in each MCAT score range (n = 231 postbac students and n = 927 non-postbac control students) (Ramsey, 2023).

**Challenges and Limitations****Postbac Programs**

Postbac programs of all types carry an additional tuition burden, so helping students decide whether the additional coursework and training are necessary for them to be competitive in the professional school application process is essential to estimating the value proposition. For students that have previously tried and failed to gain admission into professional school, the cost of a postbac program can provide great value (provided that the student is able to perform well and make the most of the opportunity). Likewise, aspiring professional school applicants whose undergraduate GPAs are on the lower end of the competitiveness scale (for example, see Figure 2) may require the additional opportunities offered by a postbac program to demonstrate their capacity to handle the academic challenges that are typical of first-year professional school curricula.

Postbac programs can represent excellent value for other types of students as well, but both the student's individual circumstances and the program's offerings should be carefully considered. For example, students who earned strong undergraduate GPAs may benefit from a postbac if they aspire to compete for admission to a highly ranked professional program that might otherwise be beyond their reach. In contrast, a student with a solid undergraduate academic record but a relatively weaker standardized test score might find that investing in more intensive test preparation yields better value

(and less risk) than a yearlong postbac. The latter reasoning is at least partially mitigated by the likelihood that, by strengthening foundational scientific knowledge, postbac curricula are also likely to help students improve their standardized test scores (Ramsey, 2023).

**Master's Degree Programs**

While MS (thesis-based) degrees and the research experience that they confer do offer competitive advantages to professional school applicants, caveats and limitations apply. An MS is unlikely to substitute for an otherwise non-competitive record in another application category (i.e., standardized test score, undergraduate and graduate GPAs, leadership, clinical experience, or non-clinical community service). The magnitude of the academic enhancement provided by an MS degree may also depend strongly on the values of the professional school to which a student is applying. For example, some medical schools require research experience and emphasize research as an essential component of medical education, whereas others may be more focused on cultivating leadership in community or public health, and during application review, they will correspondingly reward MS training in disciplines that are best aligned with their educational priorities.

On the other hand, it is worth considering that both the breadth and depth of an applicant's knowledge and academic experience are generally valued. So, an applicant who has demonstrated excellence in multiple disparate fields (e.g., an undergraduate neuroscience major who subsequently completed a master's degree in a disparate discipline such as music or business administration) could gain a similar advantage to one who has specialized (e.g., a chemistry major who completed a master's degree in biochemistry). Overall, the return on investment in master's training is likely to be positively correlated with both an enhancement in the quality and diversity of an applicant's lived experience AND a bolstering of academic bona fides. Finding the right master's program can be arduous—there is no substitute for taking the time to identify research areas of interest and even to contact potential thesis advisors well in advance of application submission to an MS degree-granting program—so guiding students through this process can be time-consuming.

**Special Master's Programs**

An MS degree through a special master's program provides academic enhancement but is less likely to offer opportunities for research without the thesis component. Some programs may offer MCAT or entrance exam test prep and professional development opportunities related to the application itself. The coursework is rigorous, leaving little time for students to participate in additional application enhancements such as shadowing, clinical work, or community service. For this reason, students entering these programs have often already taken a gap/glide year or two post-undergraduate to enhance

**Postbac Premed Programs: What Advisors Need To Know** *(continued)*

their application and are now seeking an enhancement to their academic record. Admissions committees of professional schools associated with a special master's program will often focus on the student's success in their program as it closely aligns with the curriculum of the professional school, thus demonstrating the student's ability to be successful with a rigorous health professions program curriculum.

**Medical School Perspective*****Medical School Application File Review***

The evaluation of applications can vary widely from school to school, as there is no standard evaluation requirement by accrediting bodies. During application review at some schools, a school-specific scoring system that assigns specific point values to undergraduate and graduate GPAs, standardized test score(s), clinical shadowing and non-clinical volunteering activities, laboratory research experience, etc. is used. Schools that do not necessarily use a point-value-based rubric will often use a screening evaluation form that provides a holistic approach. Given the number and variety of postbac programs that are currently available, there is no single standard for assessing the value of an applicant's postbac experience for admission to a particular professional school.

Career-changer applicants may be afforded "points" or stronger consideration for their work and life experience in an unrelated discipline or occupation, especially if it is perceived to add value or diversity of thought and life experience to the applicant's matriculating cohort. The consideration or point value attached to the completion of a postbac or master's program is therefore likely to be school-specific and could vary widely. Academic enhancer applicants who excel in a postbac or master's program demonstrate evidence of success to admissions committees by showing that they have acquired the skills and knowledge in advanced or graduate-level science courses that are comparable in difficulty to those encountered in medical school. To better gauge how their postbac experience is likely to be valued during the application file review process, prospective applicants are advised to consult with admissions office staff at professional schools of interest prior to submitting an application. Additionally, prospective students are encouraged to ask postbac or master's programs about their history or track record of placement into professional schools.

Ultimately, regardless of the type of postbac program completed, all postbac students may be classified as "nontraditional" applicants compared to the cohort that is applying as seniors in college. Nontraditional students, with their varied backgrounds and life experiences, can bring a unique set of values to a professional school class. They offer diversity, which can increase cultural competence and understanding of different perspectives. Additionally, non-traditional students often have experience in other fields,

which can be beneficial and bring a special dynamic to the classroom and the health-related field. They often bring an elevated level of professionalism, having developed skills such as communication, collaboration, organization, and time management. Their academic, emotional, and psychological maturity is another asset; they have already developed skills such as self-discipline, self-management, and the ability to handle stress. Finally, given the amount of extra time and financial sacrifice that postbac students have to commit to complete their programs, non-traditional students are highly committed to their education and career goals, and their motivation to succeed is evident. Collectively, these factors combine to create a highly valuable group of students that can enhance the learning environment and contribute to the future of the health professions.

***Program Linkage***

Professional schools that offer a linkage (i.e., early file review, a guaranteed interview, or conditional acceptance) to students who achieve a specific GPA, standardized test score, or other benchmarks in their postbac will be more familiar with the academic rigor and future performance of graduates from the linked program. Academic success in a linked postbac program is perhaps the most sure-fire method for harnessing the potential to increase professional school application competitiveness. Professional school admissions staff are aware that postbac programs represent a rare opportunity for transforming experiences that can provide redemptive access to potentially problematic indicators in an applicant's past. Additionally, linkage opportunities from career-changer postbac programs with conditional acceptance agreements with a particular professional school can offer these prospective applicants a more direct pathway to a professional school and avoid a lengthy and expensive application process. To take advantage of such opportunities, students should be prepared to demonstrate academic excellence in their postbac program and, if appropriate, show a prolonged upward trajectory.

***Standardized Test Scores***

Standardized testing—MCAT, DAT, PCAT, PA-CAT, and other professional school-specific standardized tests—is an unavoidably important criterion in the evaluation of applicants. Most professional schools recognize that a good postbac experience can help students raise their standardized test scores and may expect applicants to demonstrate improvement. Standardized test score averaging, particularly when an applicant has >2 test scores, is an increasingly common approach in the professional school file review process. That said, some professional schools only consider the most recent standardized exam score. Prospective applicants are therefore advised to have the minimum number of test scores reported on their application and, ideally, to demonstrate their best effort the first time they take the test. This means that prospective applicants should be prepared to commit sufficient time and

**Postbac Premed Programs: What Advisors Need To Know** *(continued)*

effort to mastering test-taking strategies, reviewing test content, and taking full-length practice exams (usually a good predictor of the actual score) well in advance of the test date.

**Letters of Recommendation**

Professional school applications will require several (at least three and often more) letters of support for each applicant, but the exact number and combination of types of letters may be different for each school, even within the same discipline (i.e., MD programs). The AAMC has published comprehensive [guidelines for medical school applicant letter-writers](#) (AAMC, 2023b), and many of their recommendations are also appropriate for other professional schools. Generally speaking, application review committees are seeking insight into an applicant's suitability for their program that is not otherwise available from other sources, so personal anecdotes and observations of personal characteristics and attributes over extended timelines are particularly valuable.

Many undergraduate and postbac pre-health advisory programs provide students with a committee letter written by a team of faculty or advisors; these seek to concisely summarize the strengths of an applicant and can be a valuable source of additional information about the learning environment in that program for application file reviewers who may otherwise be unfamiliar. Knowledge of a student's ranking within the program (particularly when it is high) is also potentially valuable information for review committees. A potential downside to committee letters is the lack of specific examples of the applicant's behavior that are derived from first-person experience, so it's important for applicants to pay attention to the balance of letter-writer perspectives in their application. Applicants are advised to cultivate relationships with faculty instructors, pre-health advisors and mentors, research and clinical preceptors, and supervisors in application-relevant occupations early in the application process. Letters should be updated annually (i.e., if re-applying) and may be conveniently stored and uploaded into application portals using a third-party service such as Interfolio.

**Clinical Experience and Non-Clinical Community Service**

Virtually all professional schools require applicants to have direct personal experience in the field for which they seek admission. Many professional schools likewise want applicants to demonstrate their commitment to helping underserved communities or non-profit agencies by investing substantial time (200+ hours each is suggested for admission to U.S.-based medical schools) before applying. Where possible, gaining additional time in a clinical or nonclinical community setting while also enrolled in a postbac program can be an excellent way of linking didactic education with real-world experience that more fully prepares students for the professional school experience. However, the

academic demands of a postbac program will likely constrain the time that students are able to devote to clinical and community service activities. Students are therefore advised to complete a substantial fraction of the necessary clinical and nonclinical hours prior to enrolling in a postbac program; the additional time gained as a postbac student can then serve as a valuable supplement to the prior core experiences.

**Conclusions**

It's important for advisors to understand the types of postbac programs that exist so they can help students find the best option for their specific circumstances. If offered by an accredited academic institution, all postbac programs can be high-value, so picking the best option does not depend on the objective value of the program but instead on the subjective value of the resources and courses the program offers relative to the needs of the student. Thus, to support students in their search for a postbac program that best fits them, you should:

- Help the student assess their needs and priorities
- Gain a basic understanding of postbac programs

For the former, we have provided a set of guiding questions that can be used to help students determine their individual needs. For the latter, in the below text, we hope the deeper exploration we have provided of each category of postbac program will help you begin to get to know what we offer and how we can help your students achieve success.

**Guiding Questions for Advisors To Ask Students****General Questions To Define Priorities**

*All postbac programs are good in different ways, but not all programs will be good for you. Defining your priorities will help you compare programs and know which details to pay the most attention to as you consider options.*

1. What goals am I looking to achieve in a postbac program?
2. What do I feel needs the most work in my pre-health application?
3. For the sake of this question, assume that you have to cobble together your own postbac program, DIY-style (assume that you can get access to the correct classes). What aspects of doing it independently most concern me?
4. Consider the questions in the below sections. In considering postbac programs, what are the 2–5 questions that are the highest priorities in choosing programs?
5. What topics or characteristics (listed or not listed) are most necessary for my success in a postbac program?

**Postbac Premed Programs: What Advisors Need To Know** (continued)**Program-Specific Questions on Eligibility**

Within general categories, programs will vary widely in what they consider eligible candidates. Meeting eligibility requirements is essential to being a successful candidate, so this is a must-complete section for any school you are considering.

1. What are the eligibility requirements for this program?
2. Do I meet the eligibility requirements of this program right now? What would be necessary to meet them? (Is that doable?)

**Student-Driven, Program-Specific Questions**

The questions below speak to all the ways that programs can vary. This is an attempt at an exhaustive list, but feel free to add your own questions if you have needs not addressed here. Additionally, the inclusion of any question here is not meant to imply its importance; it is appropriate that there will be many on the list that will not be important to you.

**Curriculum**

1. What classes will I be able to take through this program?
2. Who will I be taking classes with? (For example, postbacs only, undergraduates, graduate students outside the program, medical school students, or others)
3. How big will my classes be?
4. If relevant, what electives will I have access to? How many can I take? How are electives selected?
5. What is the timeline for completing the curriculum? (For example, 1 year, 2 years, at your own pace, or other)
6. How flexible or rigid is my plan of study? How is my plan of study determined?
7. When are classes held? (For example, during the evenings, during the day, or other times)
8. Once I begin the program, is there flexibility in the timeline for completing the program?
9. Who teaches the classes? How are faculty selected?
10. What modalities are available for courses? (For example, in-person, online synchronous, online asynchronous, hybrid, or others)
11. On average, how do students perform in the classes?
12. Are there any aspects of this program's curriculum that you feel are unique or noteworthy?

**Advising**

1. Do I have one-on-one academic advising available to me? Do I have one-on-one pre-health advising available to me?
2. Do I get to choose an advisor, or is one assigned? If assigned, how is the assignment decided?
3. What is the average number of students an advisor serves?
4. How are advising meetings set? (For example, required, student-requested, or other)
5. What modalities of advising are available? (for example, in-person, online, email, or others)

6. Are advising resources available to alums? How long are advising resources available to alums?
7. Are available advisors shared with other groups of students or postbac only?
8. Are there other advising resources available to current students/alums? What topic(s) are covered? (for example, workshops, advising class, webinars, videos, handouts, worksheets, other written materials, a resource library, or others)
9. Are there opportunities for mentorship or peer advising through this program?
10. Are these advising services also available to graduates?

**Services**

1. Does this program offer support for my field's standardized test?
  - a. If yes, is it provided by an external company or part of the program's curriculum?
    - i. Do I get to choose whom I select for prep?
    - ii. Who teaches the prep? How are instructors selected?
    - iii. Beyond the classes, what additional resources are available to me to prepare?
    - iv. Is there an additional cost for participation?
    - v. Is there flexibility on when I complete the prep? How is it decided when I complete the prep?
    - vi. What happens if I cannot attend classes?
    - vii. Are there any aspects of this prep that you feel are unique or noteworthy?
  - b. If not, what do students typically do to prepare for my field's standardized test?
    - i. Is there financial support for purchasing prep via financial aid or other sources?
    - ii. What resources are available to assist me in my preparation or in selecting preparation services?
2. How do students from this program perform on my field's standardized test?
3. What university/college academic support services are available to students? What program-only academic support services are available to students?
4. What does this program offer to support the letter process? (For example, a committee letter, a composite letter, a letter packet, a letter collection service, or other)
  - a. What is the process to utilize this service?
  - b. How is eligibility determined?
  - c. Do alumni have the same access to letters as recent graduates?
5. Are there opportunities for feedback or review of application documents or resume review either through the school or program?
6. What resources are available to alums? Are they the same or different from students currently in the program? Is there an "age-out" process during which resources for alums change?

**Postbac Premed Programs: What Advisors Need To Know** (continued)**Experiences**

1. Is there time during the program for students to complete experiences?
  2. Is it possible for students to be admitted without completing any in-field experiences? If so, what are the consequences?
  3. Are there any field-focused experiences that are integrated into the program? (For example, classes, internships, class projects, or others)
  4. Are there any service-focused experiences that are integrated into the program? (For example, classes, internships, class projects, day-of-service, or others)
  5. Are there any research-focused experiences that are integrated into the program? (For example, classes, internships, class projects, day-of-service, or others)
  6. Are students offered support for finding and selecting clinical, service, or research experiences?
2. What is the cost of this program?
    - a. What is included in that cost?
    - b. Can the cost of the program change depending on how fast or when I take courses?
    - c. Other than room, board, and the cost of classroom supplies, are there other costs for students that I should be aware of? (for example, additional university or program fees, cost of prep company services or letter services, or others)
    - d. Is financial aid available? Where can I get more information about my financial aid options? Is this program eligible for VA education benefits? Is this a yellow ribbon program for veterans?
    - e. Are there other sources available for financial support—scholarships, etc.?
  3. What is the success rate of graduates of this program in terms of acceptance to their chosen graduate medical education program?
  4. Is this a longstanding, established program with a proven track record or a newer program?

**Location/Environment**

1. How would the program students describe the culture here?
2. What services are available to support students who struggle?
3. Do students feel like the environment is welcoming?
4. Can you describe the program's or school's location? What resources, opportunities, or challenges occur because of the program's location or the school's location?
5. What challenges do students face in finding housing, daily necessities, spaces for studying or meeting peers, or volunteer opportunities?
6. Are there "safe ride" opportunities to ensure student safety on campus and to and from campus?
7. Is the school's campus all in one place or spread across several locations? How do students navigate this?

**Other**

1. Are there any linkages, partnerships, or similar pathways to professional schools in my field available?
  - a. If so, what are the eligibility requirements?
  - b. What is the selection process?
  - c. How do students decide whether to utilize them?
  - d. How many students participate? How many students are successful?
  - e. Are there any qualities or characteristics that you feel support successful preparation?

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## Appendix: Definitions

**Academic-Enhancer Program:** Programs that allow students to take either upper-level or graduate science courses to improve their GPA, demonstrate academic preparedness, and hone their study skills.

- **Formal, structured undergraduate and graduate certificate program:** Students follow a prescribed course of upper-level or graduate-level foundational science courses. These are typically cohort-based and incorporate academic advising, application readiness training, and standardized test prep. A few non-certificate options may also be available.
- **Master's program (MS):** Students earn a basic science research-based master's degree over two years. May be stand-alone or affiliated with a certificate program. May not include health professions-specific advising, application readiness, or test prep.
- **Special master's program:** Students earn a master's degree in one year, usually associated with a professional school. These are typically geared toward pre-professional health students and may offer advising, test prep, and skills training.

**Career-Changer Program:** Programs that allow students to take basic science prerequisites for a health professions program. By definition, these are undergraduate courses.

- **Structured cohort program.** Students take specific classes as an exclusive group. These are certificate-granting programs that offer academic advising, standardized test preparation, and application readiness training.
- **Structured cohort within a program.** Students take the majority of classes together within a larger college or university science curriculum or discipline. These are often certificate-granting programs; academic advising, test prep, and application planning may be cohort-specific.
- **Unstructured, non-cohort.** Under the guidance of an advisor, individuals take required courses as non-degree-seeking students within college or university science courses.

**DIY Program:** Students opt to take relevant coursework on their own. These programs may or may not have access to pre-health advising.

**Hybrid Program:** Programs that allow students to take both remaining required basic science courses and upper-level science courses.

