

*A Mentorship Model for Pre-Medical Students Disadvantaged in the Medical School Application Process*

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**Abstract**

Applying to medical school is a long, convoluted, and expensive process. While some applicants may be able to afford third-party application consulting services for professional one-on-one advice, others struggle to overcome the basic financial obstacles of applying, such as application fees, travel and accommodations for interviews, and more. “Giving a Boost” (GAB) was founded at the University of Pittsburgh School of Medicine to address this issue by providing free application consulting services to medical school applicants in the Pittsburgh area with a focus on supporting those from socioeconomically disadvantaged backgrounds. Overall, 97 medical school applicants were recruited from the Greater Pittsburgh area to receive essay support from 65 Pitt Med student volunteers over the summer of 2020. Following the summer essay program, 71 applicants completed a survey rating their experiences with GAB in comparison to other essay preparation resources. GAB was given a rating of 8.7 out of 10 and was rated significantly higher than any other resource ( $p < 0.01$ ). Between August and December, the number of volunteers and applicants in our program increased, and volunteers provided a total of 151 mock interviews while also assisting applicants with writing update letters and letters of interest to medical school admissions committees. So far, we have found GAB to be an effective mentorship program that can provide medical school application support to disadvantaged pre-medical students. Furthermore, we hope that other schools may initiate similar programs to provide meaningful experiences for medical students while supporting applicants who are most in need.

Keywords: Pre-Medical Education, Medical Schools, Mentorship, Mentor, Mentee, Medical School Application

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## **Introduction**

Applying to medical school is one of the first steps that students must take towards becoming physicians. However, it is a costly and convoluted process that acts as an inequitable barrier for many students. The current American Medical College Application Service (AMCAS) process of applying to medical school consists of multiple steps: a single primary application, individual secondary applications for each medical school to which the student is applying, interviews, and the submission of additional letters to admissions committees. The primary application includes a personal statement and descriptive resume, and the secondary applications include several institution-specific essay prompts. Once medical schools review both applications, in addition to academic performance, students may be invited to interviews. In 2018, the median number of interviews offered and attended among medical school matriculants was three (Association of American Medical Colleges, 2018). Finally, student applicants may submit updates, letters of intent, or letters of interest to institutions throughout the year in an attempt to improve chances of acceptance.

This entire process carries immense financial burden for many applicants. While some applicants may be able to afford to spend hundreds of dollars per hour to utilize third-party application consulting services for professional one-on-one advice, others struggle to overcome the basic financial obstacles of applying, such as application fees, travel and accommodations for interviews, and more. On supplemental (secondary) applications alone, the median cost reported by medical school matriculants in 2018 was \$1,200 with 13.2% spending \$3,000 or more (Association of American Medical Colleges, 2018). Programs, such as the AAMC Fee Assistance program for primary applications and school-specific accommodations, exist to lessen these expenses. However, no aid packages exist that fully cover the costs of applying (Millo et al., 2019). Of the programs that do exist, they do not adequately compensate for the massive advantage of professional consultation.

We truly believe that the medical school admissions process should be based on applicants' merits, character, and passion for medicine, rather than their monetary wealth or pre-existing connections. To equalize the playing field, we established "Giving A Boost" (GAB) at the University of Pittsburgh School of Medicine (Pitt Med) as a student organization in which like-minded medical student volunteers provide free application consulting services, such as essay feedback on primary and secondary applications and interview preparation, to allopathic and osteopathic program applicants in the Greater Pittsburgh Area.

### **Giving a Boost's First Year**

At the start of 2020, GAB's first goal was to provide both MD and DO medical school applicants with feedback on their application essays via a summer essay program for local students applying to medical school.

To reach out to nearby applicants to medical school, we first contacted the nine pre-health advising programs (University of Pittsburgh, Carnegie Mellon University, Chatham University, Point Park University, Duquesne University, Carlow University, Allegheny College, and Washington and Jefferson College) in the greater Pittsburgh

area to request that they advertise our free services to their students. Second, we contacted various departmental advisors and pre-medical student organizations at local universities to further disseminate our information. Third, our information was distributed through the “Pitt Med Student Ambassadors” social media pages, which are frequented by many students interested in Pitt Med. Throughout the whole process, we advertised our services to applicants as a free, comparable version of those offered by paid consulting businesses. In addition, we requested that interested applicants self-select amongst themselves and sign up if they felt that they would not have been able to afford those consulting businesses’ paid services. This allowed us to support the applicants who would benefit most from our free help.

To ensure that each of the 97 applicants who ultimately signed up for our upcoming summer program could be properly supported, we recruited 65 students from Pitt Med who committed to serve as volunteer mentors over the summer months. As students at the medical school, all our volunteers had experienced writing a variety of essays as part of the medical school application process. They were trained and then instructed to provide comments and feedback on the applicants’ main primary application personal statement and various secondary application essays throughout the summer.

After recruiting our medical school applicants and Pitt Med student mentors, we distributed a survey to both groups to gather personal information, including undergraduate majors, extracurriculars, and personal motivation for medicine. Our intention behind this survey was to create mentor-mentee pairings of similar backgrounds so that the medical student could provide support unique to their shared experiences (e.g. reapplicants, nontraditional, under-represented minority, first-generation low income, MD/PhD). Using this method, each applicant was paired with one of the Pitt Med student volunteers.

Over the summer, GAB leaders sent a biweekly email to check in with each applicant and student volunteer in order to ensure that the process was running smoothly from both sides of each applicant-volunteer pairing. The GAB team personally managed any issues that arose throughout the summer. For example, if an applicant could not reach a volunteer, we were able to contact the volunteer to remind them of their commitment to the program or ultimately reassign the applicant to a new volunteer if the issue persisted.

At the beginning of August, once our summer essay support ended, we started offering mock interview services to prepare applicants for the next step in their application process. All summer program applicants were invited to make use of our continuing services, which began with the mock interviews that were offered throughout the fall semester. We also collaborated with the Minority Association of Pre-Medical Students chapters in Pennsylvania, Delaware, and West Virginia to further extend the reach of our program to underprivileged students of underrepresented minority backgrounds across these three states. All volunteer mock interviewers were again recruited from amongst Pitt Med’s students. We again trained the Pitt Med volunteers on how to perform mock interviews, as well as how to provide constructive feedback on their mock interviewees’ responses. Most of the volunteer mock interviewers also act as student interviewers for the Pitt Med admissions office, so these volunteers were able to provide the mock interview as they would for a regular medical school interview. In total, 45 volunteer mock interviewers

have provided 88 applicants—many of which were not involved in our summer program—with a total of 151 mock interviews across a 5-month period, beginning in August.

As requested by many of the applicants, in November, GAB volunteers gave a presentation to applicants on how to write update letters and letters of interest to medical school admissions committees. Since this presentation, applicants have been invited to submit their drafted letters for advice, with GAB volunteers providing comments and feedback to their assigned applicants in a method similar to our previous summer essay program.

As this year's medical school admissions cycle progresses, we will continue to provide free services to local and regional applicants, as requested.

### **Results from Our Summer Essay Program**

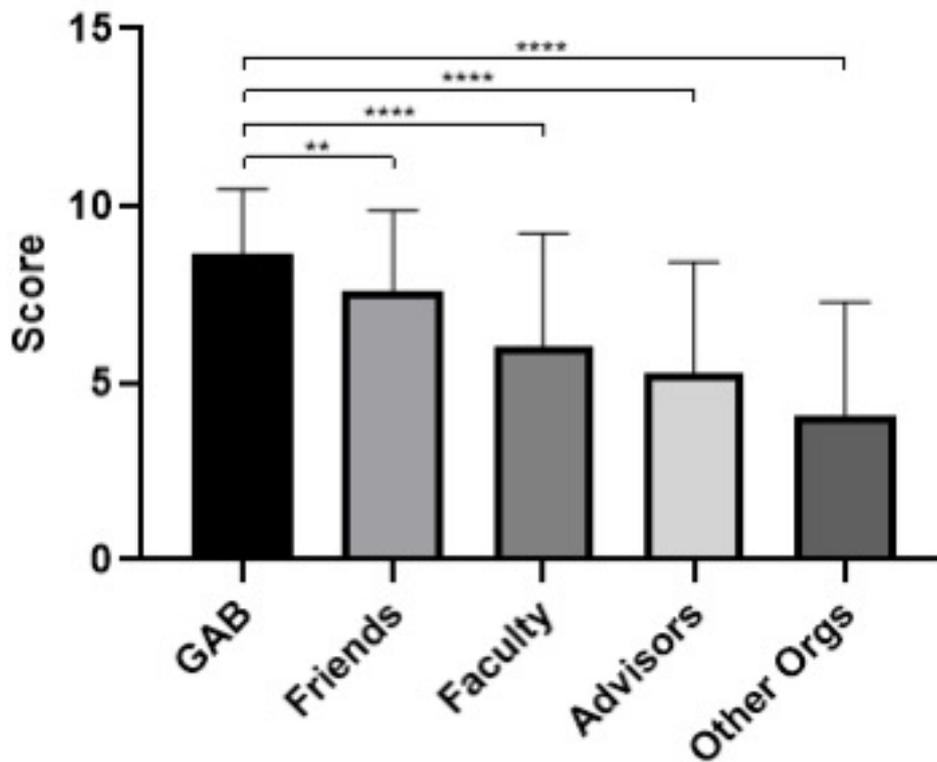
At the end of the Giving a Boost 2020 summer essay program, a survey was distributed to the applicants to rate their experiences with the program on a scale of 1-10 (with 10 being the highest) compared to other essay preparation resources, including friends, faculty, pre-health advising, student organizations outside of GAB, and paid consulting services. Respondents were also asked to provide basic demographic information. Survey data was collected using Google Forms (Google, Mountain View, CA). Statistical analyses and figure creation were performed using GraphPad (GraphPad Software, San Diego, CA).

71 applicants filled out the survey (73% response rate). Out of those who responded, 4 (5.6%) self-identified as 1<sup>st</sup> generation college students, 6 (8.5%) as LGBTQIA+, 11 (15.5%) as under-represented minorities (URM) in medicine, 4 (5.6%) as MD or DO program reapplicants, and 12 (16.9%) as being from a medically underserved area. For the application cycle of 2020-2021, 21 (29.6%) applicants self-identified as being from the undergraduate graduating Class of 2021, 24 (33.8%) from the Class of 2020, 19 (26.8%) from the Class of 2019, and 7 (9.9%) from the Class of 2018 or older. This data is summarized in Table 1.

Across the 71 responses, applicant ratings for GAB, pre-health advising, student organizations outside of GAB, friends, and faculty (average  $\pm$  standard deviation) were 8.7 (1.8), 5.3 (3.2), 4.1 (3.2), 7.6 (2.3), and 6.0 (3.2), respectively. Two-tailed Student's t-test with unequal variance was performed between GAB and each of the other resources. GAB was statistically significantly rated higher than any other resource. More specifically, analysis comparing GAB with the next highest rated resource (friends) yielded a p value of 0.0034. Comparisons with pre-health advising, student organizations outside of GAB, faculty, and paid consulting services yielded p values  $\ll$  0.0001 (Figure 1 and Table 2). Finally, the applicants rated a willingness to recommend GAB to others as a 9.5 (1.0).

<b>Applicant Demographics</b>	<b>Number (%)</b>
1 <sup>st</sup> Generation College Student	4 (5.6%)
LGBTQIA+	6 (8.5%)
Underrepresented Minority in Medicine	11 (15.5%)
Reapplicants	4 (5.6%)
From a Medically Underserved Area	12 (16.9%)
<b>Graduating Classes (Undergraduate)</b>	
2021	21 (29.6%)
2020	24 (33.8%)
2019	19 (26.8%)
2018 and Older	7 (9.9%)

**Table 1: Demographics of applicants this cycle who signed up for GAB.**



**Figure 1: Graphical representation of the average scores and error bars for each of the resources rated by applicants.**

GAB was statistically significantly rated higher than any of the other resources. \*\*\*\*  $p < 0.0001$ , \*\*  $p < 0.01$ .

	<b>Average Score (stdev)</b>	<b>P-Value Compared to GAB</b>
Giving a Boost (GAB)	8.7 (1.8)	
Pre-Health Advising (Advisors)	5.3 (3.2)	<<0.0001
Student Organizations Outside of GAB (Other Student Orgs)	4.1 (3.2)	<<0.0001
Friends (Friends)	7.6 (2.3)	0.0034
Faculty (Faculty)	6.0 (3.2)	<<0.0001

**Table 2: Statistical analysis comparing GAB to other resources rated by applicants.**

The numbers displayed in this table correspond to the graphical representation in Figure 1.

### **Reflections**

GAB was initiated with the goal of providing mentorship to students navigating the medical school application process by taking a holistic and longitudinal approach to advising. A central pillar of medical education is passing along experiences and advice from those who have successfully completed a requisite stage of the journey, which is embodied by this free service for applicants. For students who do not have the financial means to utilize an application service, this program helps to reduce disparities based solely on socioeconomic status. Mentorship and advising are vital both in the stages preceding medical school, as well as at each subsequent milestone of medical training. Through pairing applicants with medical students who recently navigated the medical school admissions process, GAB was able to offer support that incorporated all of the components of a successful application.

The model that we created has demonstrated that a medical student to pre-medical student pairing has been effective in providing essay and interview feedback to disadvantaged pre-medical students. In addition, mentor-mentee relationships have fostered a broader discussion of competencies that are encouraged and expected in a practicing provider. From our first year, we found that both parties benefitted from the experience, not just the applicant. For mentors, the ability to give back and contribute to the next cohort of medical professionals has anecdotally proven to be a rewarding and educational experience.

The implementation of GAB at the University of Pittsburgh School of Medicine was a collaborative undertaking by several motivated medical students and faculty members, and we have a strong belief that similar programs can be implemented at other medical schools with the right support. Given the stringent timeline that medical students across the nation abide by in regard to standardized exams (USMLE Step 1) and clinical rotations (usually beyond M-2 year), we saw successful implementation of GAB during the first year of medical school. When we established this organization as first-year students, we were still very familiar with the medical school application cycle, and many of the upperclassmen involved in our program volunteered when they were not actively participating in their clerkship rotations.

Thus, it is also important to consider medical school timelines and various curricular requirements when establishing a similar organization at another institution.

Present success of GAB has been represented by applicant feedback following various components of support and mentorship throughout this application cycle. While this indicates levels of applicant satisfaction and their perceived level of support with application materials, it does not yet encompass the ultimate goal of the program, which hopes to convert a high degree of longitudinal support into medical school acceptances and matriculations. This data will be collected in the spring and summer months of 2021 as the first GAB cohort approaches their first year of medical school.

## **Conclusion**

With an initial goal of providing essay assistance to medical school applicants, GAB has become a student organization that has provided not only free primary and secondary essay feedback, but also assistance regarding interviews, update letters, and letters of intent/interest. GAB grew into a longitudinal and holistic mentorship program that has proven how medical student to pre-medical student pairings are effective in providing medical school application support to disadvantaged pre-medical students. We expect for GAB to continue its growth at Pitt Med and further expand in the mid-Atlantic region. We hope that these efforts will encourage other schools to initiate similar programs to provide meaningful and educational experiences for medical students while also making a convoluted and difficult process more affordable and supportive for applicants who may not otherwise have the connections or means to receive this help.

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