



Understanding the Experiences of First-Generation Medical Students: Implications for a Diverse Physician Workforce

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Calls for a diverse physician workforce continue to grow, and a key approach to answering these calls lies in ensuring that first-generation (First Gen) undergraduate students are able to become medical students and, eventually, physicians. The Association of American Medical Colleges (AAMC) defines First Gen individuals applying for medical school as candidates “whose parents have not earned an associate’s degree or higher” [1]. Although a large proportion of First Gen students in health professions are also underrepresented minority (URM) students, it is important to note that First Gen students come from different racial and ethnic backgrounds, and differ in regard to socioeconomic and immigration statuses [2]. Moreover, the obstacles faced by students differ depending on students’ backgrounds. For instance, URM First Gen students face different issues (e.g., ethnic and racial biases) than non-URM First Gen students.

Published reports have indicated that 51% of First Gen undergraduate students are from minority backgrounds, while only 30% of non-First Gen undergrads are from minority backgrounds [3]. In addition, 27% of First Gen undergraduate students reported parental incomes of less than \$20,000, while only 6% of non-First Gen undergrads reported the same [3]. Additionally, 46% of First Gen undergraduates are not US citizens [4]. In addition to diverse backgrounds, advantages that First Gen students bring to the institutions they attend include personal qualities, such as grit, innovative thinking, and insight into health disparities [5]. While this information on undergraduate First Gen students is valuable, it does not reveal the trajectories of First Gen undergraduates who become medical students.

Difficulties in studying the First Gen population are due, in part, to historical reports’ infrequent use of the term “first-generation” and conflation of demographic identifiers. Past research has used terms like “underrepresented minority,” “low socioeconomic status,” “disadvantaged,” “at-risk,” and “vulnerable” to describe First Gen students and since these terms were often used as proxies for First Gen status, many historical details on this group went uncaptured. However, more recently, accrediting organizations have begun advising medical schools on how to collect information on First Gen applicants [6]. For instance, beginning in 2017, the AAMC introduced a “First Generation College Student Indicator” on the American Medical College Application Service [1, 5]. The AAMC has also encouraged medical schools to undertake “holistic reviews” that allow admissions committees to give equal consideration to the experiences, attributes (including First Gen status), and metrics of medical school applicants [6]. Since medical schools are increasingly collecting information on their First Gen populations and considering this metric for admission into medical school, residencies, and fellowships, the need for data on First Gen individuals in medical training is a priority for medicine and academia.

The specific aims of this commentary are the following: (a) to identify educational challenges unique to the First Gen population and (b) to highlight how First Gen status among physicians can diversify the physician workforce and positively impact healthcare. While URM and First Gen students often share similar life experiences that can help diversify the physician workforce, the First Gen narrative is the primary focus of this commentary. This piece highlights initiatives aimed at diversifying the medical school pipeline and increasing matriculation for First Gen students. This commentary also advocates for research on the First Gen medical student population and illustrates the unique role that academic psychiatrists have in supporting the First Gen physician workforce.

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Obstacles Start at the Undergraduate College Level

Research indicates that First Gen undergraduates encounter challenges with the following: understanding the college process, financing college, finding a community while at school, balancing family obligations with school, and navigating college while lacking cultural capital [7, 8]. Although cultural capital is domain specific, Oldfield defines it as the “knowledge, skills, education, and other advantages a person has that make the educational system a comfortable, familiar environment in which [a student] can succeed easily” [7]. In light of the aforementioned obstacles, various pipeline programs aimed at increasing the matriculation of educationally and financially disadvantaged medical students, including those with URM and First Gen backgrounds, have been created.

Examples of such programs at our institution are the Robert Wood Johnson Foundation-funded Summer Health Professions Education Program (SHPEP), which was launched in 1989 [9], and the Pre-Medical/Pre-Dental Enrichment Program (PREP), which admitted its charter class in 1982 [10]. The focus of SHPEP is to recruit community college students that identify with a group that is racially or ethnically underrepresented in the health professions and introduce these students to healthcare issues that affect medically underserved communities. In addition, students receive health professions school admissions counseling [11]. The focus of PREP is to prepare students from “disadvantaged backgrounds” for the MCAT or DAT exam, provide career guidance, and allow students the opportunity to observe health professionals in the field through clinical preceptorships [10]. Reports on these programs frequently classified students as “disadvantaged,” rather than First Gen, and as a result, it remains unclear how many First Gen students in these and other pipeline programs have participated. However, past publications have noted PREP’s overall accomplishments: 81% of PREP participants have been admitted to a health professional school [12] and 91% of PREP alumni are active in healthcare professions [10]. In addition, our institution has experienced a 300% increase in enrollment of minority dental school applicants as a result of operating pipeline programs [13].

What We Know About the First Gen Medical Student Experience

The obstacles faced by First Gen medical students are likely to impact their health and well-being. In 2013, the AAMC piloted the Medical Student Life Survey (MSLS), which was administered to all second-year medical students at 136 US medical schools. The survey measured self-rated well-being and perceptions of the learning climate [14]. Study results indicated increased levels of stress, fatigue, and financial

worries, as well as lower quality of life and social support ratings among First Gen medical students as compared with the total population. More recent mental health research on First Gen medical students found that scores for physical, psychological, and social quality of life were lower, albeit non-significantly, among First Gen students than non-First Gen students, while scores for environmental quality of life and self-care were significantly lower among First Gen students. In addition, compared with their non-First Gen peers, First Gen medical students reported lower levels of faculty role models engaging in self-care and lower levels of school support for family and personal responsibilities [5].

Drop-off in First Gen Higher Education Trajectories

Notably, as recently as 2012, only 4% of First Gen students enrolled in a doctoral or professional program (beyond a master’s degree), compared with 10% of students whose parents earned a bachelor’s degree [15]. When considering the fact that nearly a third of undergraduate students are First Gen, the low enrollment of First Gen students in graduate studies is alarming, as it indicates that many college-educated First Gen students are unable to progress through the medical education pipeline [16]. Possible explanations for this trend include high costs associated with pursuing medical education, varying levels of academic preparedness, a lack of cultural capital, and unsupportive institutional policies and cultures [15, 17]. Although the cited research provides some insight, there remains a paucity of information pertaining to the decline in First Gen student enrollment in doctoral or professional programs. Studies that (a) qualitatively collect information on First Gen students who graduate from medical school and (b) identify shared factors that affect graduation rates and academic trajectories are critical in identifying barriers to medical school application and enrollment, as well as factors that precipitate attrition.

First Gen Physician Attributes and Patient Care

A diverse class of First Gen medical students has the potential to enhance medical education and training for all future physicians, improve the quality of patient care, and help address the mitigation of health disparities [18, 19]. Past research has shown that First Gen undergraduate students are more resilient than their non-First Gen peers [20] and when asked about factors that enabled them to persevere in college, First Gen undergrads identified determination, persistence, and resilience as advantageous personal strengths [21]. In addition, First Gen undergraduate students considered their academic

pursuits in the context of others and even recalled setting aside personal interests for the greater good, effectively putting others above themselves [21]. The personal experiences of First Gen physicians and authors KM and AC are consistent with the undergraduate First Gen literature.

Although, to our knowledge, no studies quantitatively compare outcomes of patients treated by First Gen physicians to patients treated by non-First Gen physicians, a growing body of literature has shown that patients' health outcomes are generally better when more diverse healthcare teams are involved with the provision of care [18]. In addition to better health outcomes, diverse healthcare teams affect the way in which patient care is delivered, patients' perception of their medical treatment, and can ultimately help alleviate health disparities. For example, although basic modalities, such as interpreter services, are required, a more diverse physician workforce will include more culturally aware doctors who emphasize using skills learned from cultural competence training programs in patient care. Additionally, a diverse physician workforce would utilize a variety of resources while treating patients, such as community health workers, alternative and traditional healing practitioners, and family and community members. By using these treatment modalities, physicians show respect for different cultural perspectives, which could increase patients' trust in their providers. As a result, these patients may feel more comfortable communicating their concerns, which could help improve health outcomes and lead to a decrease in overall health disparities [22].

Current Efforts to Support First Gen Medical Students

In addition to pipeline programs at the undergraduate level, institutional awareness has evolved over the need to develop First Gen student-specific endeavors and campaigns at the graduate and professional school level. Examples of efforts undertaken by Albany Medical College, University of North Carolina at Chapel Hill School of Medicine, Stanford University School of Medicine, and Georgetown University School of Medicine are outlined in a recent publication by the AAMC [23]. These efforts are often organized by medical school deans, many of which are psychiatrists, and generally focus on identifying First Gen medical trainees and creating resources or services that connect and support First Gen community members [24]. Our academic institution, the David Geffen School of Medicine (DGSOM) at UCLA, has established First Gen programming to connect First Gen medical students, residents, and fellows with dedicated First Gen faculty members for mentorship. In addition, this programming helps medical trainees appreciate the unique life experiences of their First Gen faculty members. The program also provides medical trainees with strategies for self-preservation

and well-being. Finally, First Gen medical trainees have the opportunity to network with members from other campus First Gen graduate chapters (e.g., School of Management and School of Law) and advocate for First Gen-specific concerns and issues at bimonthly First Gen Advisory Board meetings. Although these efforts are an important first step forward, much work remains in terms of addressing the pipeline to medical school, the institutional climate, and the necessary organizational changes that are tailored to the needs of First Gen individuals in medicine.

First Gen Medical Students and Academic Psychiatry

Psychiatrists are uniquely positioned to help recruit, retain, train, and support First Gen medical students since they have numerous opportunities to interact with this population. Prior research has found that psychiatry faculty members frequently serve as group facilitators for Doctoring courses [25]. Furthermore, psychiatrists often lead institutional wellness programming efforts and are involved in the provision of services that support the mental health and well-being of medical trainees [26, 27]. In our experience, psychiatrists often have leadership roles in the dean's office, provide clinical supervision, and serve as preceptorship mentors for trainees at all stages of their clinical training.

Conclusion

The experiential assets possessed by First Gen students make them valuable to medical schools, their peers, and future patients. By increasing outreach and research on this population's experiences in the transition from undergraduate work to medical school, we can better educate, recruit, and maximize the potential of all First Gen physicians. Such efforts will lead to a diverse physician workforce that is better equipped to provide culturally sensitive patient care and will potentially reduce health disparities in an increasingly diverse US patient population.

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Compliance with Ethical Standards

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