

COMMENTARY

Increasing the PharmD Pipeline, Encouraging Student Success, and Supporting the Underserved Through Pre-Pharmacy Advising

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Academic advising for pre-pharmacy students lacks best practice recommendations specific to the pharmacy profession. When considering contemporary challenges in pharmacy education, adoption of high-quality advising approaches will likely have a positive influence on professional school enrollment, general student success, and educational access for the traditionally underserved. As pre-health academic advising is an important component of student professional development, standardizing best-practice strategies in and around pharmacy programs will “[strengthen] the pharmacy pipeline” and “[raise] the profile of pharmacy” as stated in the 2021–2024 Strategic Plan Priorities, Goals and Objectives issued by the American Association of Colleges of Pharmacy (AACCP). An investment is needed to codify such practices in pre-pharmacy advising and scale these techniques across pharmacy schools positioned to serve undergraduates.

Keywords: prepharmacy advising, prehealth advising, preprofessional advising

Pre-health academic advising is an important component of student professional development. Undergraduate advising for potential Doctor of Pharmacy (PharmD) students may take place in schools and colleges of pharmacy, within pre-health advising offices associated with undergraduate academic colleges or campus-wide offices, or by individual faculty in life science departments. The professionalization of the advising field began to gain ground with the advent of the National Academic Advising Association (NACADA) in 1979.¹ Additionally, the National Association of Advisors for the Health Professions (NAAHP) was established in 1974 to provide resources for the professional development of every type of health profession advisor. While the NAAHP does offer a list of advising best practices useful for aiding most students, their organizationally endorsed bibliography highlights the medical profession, omitting any material for the aspiring student pharmacist. To the authors’ knowledge, no organization yet provides resources devoted to the development of advisors specifically serving pre-pharmacy students. This lack of profession-specific guidance, coupled with challenges facing pharmacy education, presents an opportunity for the Academy to consider how adopting high-quality advising approaches could address multiple challenges currently facing pharmacy education.

The number of students applying to PharmD programs in the United States has decreased each year since 2013, experiencing nearly a 20% drop in applications between 2017 and 2020.² However, pharmacy schools are not the first to experience a professional student enrollment crisis. Dental school applications plummeted 48% between 1975 and 1982, and law schools saw applications to juris doctorate degree programs decrease almost 37% between 2010 and 2014.^{3,4} The current stabilization of dental and law school enrollment could be a direct result of earlier proactive measures taken by professional organizations advocating for an elevation of the academic advisor role to one as a gatekeeper of and recruiter for the profession.⁵ While no single solution can be introduced to increase pharmacy career awareness and enrollment, implementing innovative pre-pharmacy academic advising may be an advantageous intervention for many PharmD programs to consider.

A low level of awareness regarding novel careers in pharmacy has been cited as a key factor for waning interest in attending pharmacy school.⁶ Advocates of the pharmacy field serving in an advising capacity are likely more apt to aid students in structuring an educational journey leading to a career in pharmacy. A 2019 study by Hickey and colleagues mentions pre-pharmacy advisors as a key group responding to misperceptions possibly held by prospective health professions students. Hickey and colleagues stated that pre-health advisors are most often the first formal contact a student has with their intended health

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profession, and a well-informed advisor with a positive perception of the pharmacy vocation will have an impact on a student's educational perseverance in the field.⁷ However, when Anderson and colleagues analyzed survey responses from students across two distinct PharmD programs, they found that college-level advisors and instructors generally directed respondents toward the practice of medicine over other health careers.⁸

The center of any advising model must revolve around student success. Pre-health advisors are charged to help students understand professional school admissions criteria and mentor students regarding career selection.⁹ Factors that improve doctoral pre-health program admission competitiveness usually include several successful actions both inside (eg, GPA) and outside (eg, job shadowing) the classroom. At this time, most PharmD degree programs allow applications from students who do not intend to complete a bachelor's degree before matriculation.¹⁰ This unique feature among health-oriented first-professional degrees theoretically allows for a relatively younger population of students to seek entry into doctorate-level pharmacy programs; this likely carries distinctive advising implications as students may require accelerated psychosocial, cognitive, typological, and person-environment development in order to succeed in a professional degree program after an accelerated undergraduate experience.¹¹

While there are many theories of advising, contemporary models usually incorporate a more developmental perspective based on the achievement of well-being, career, and personal and educational goals rather than simply prescribing tasks for a student to complete. First-year pre-pharmacy students at a smaller public institution in the Southwestern United States were evaluated to determine origins of stress and possible coping strategies.¹² Study participants predicted their stress levels to generally increase in subsequent semesters with "pre-pharmacy course work" serving as the greatest contributor. Dumke and colleagues studied the importance of motivational factors in college student success through a qualitative analysis of high-achieving, upper-level pre-dental and pre-medical students at a large, mid-Atlantic university.¹³ Participants revealed grit, mindsets, and mastery goals as the primary psychological and contextual factors promoting their academic success. Another study found that advising with a focus on mentoring students "to the profession rather than to the application" to be a primary reason for success realized by enrollees of an accelerated entry program into professional health degrees.¹⁴

PharmD programs should prioritize practices that proactively serve diverse student populations, and inclusive undergraduate advising is one way to practically meet these commitments. Racial health care disparities, especially

those recently uncovered through the COVID-19 crisis, can be partly addressed by better preparing students from traditionally underserved backgrounds for careers in health care. Authors of a qualitative study on the persistence of Black pre-health students cite a lack of mentoring and modeling throughout the career development process as having a negative impact on professional health care education attainment.¹⁵ An additional piece by Smedley and colleagues reporting on the experiences of pre-medical students found strong pre-health advising as a key element in increasing the number of underrepresented minorities entering the health professions through proactively connecting their advisees to on-campus success resources.¹⁶ Activities that connect traditionally underrepresented students with both role models and other pertinent resources will likely positively impact the advisee success as they seek to enter the field.

The field of nursing may offer examples of how to proceed in better understanding the complexity of advising in pre-pharmacy education. Mooring conducted a review of the literature and identified that aggressive advising should be implemented into nursing programs to tackle the issue of high attrition rates in Bachelor of Science in Nursing (BSN) degrees.¹⁷ Furthermore, they found that poor retention is not solely related to a student's academic ability but also to a lack of necessary intervention by faculty, beginning at admission and continuing throughout the curriculum. While not all schools and colleges of pharmacy offer a bachelor's degree, the emergence of various pipeline programs (eg, "2/3 + 4" pre-pharmacy/PharmD affiliation agreements) provides an opportunity for more professional pharmacy faculty to get involved in undergraduate education. One pre-pharmacy advising model adopted by a public institution in the Northwest includes an eight-week, first-year undergraduate course taught by PharmD program faculty where heavy emphasis is placed on preparation for the professional school admissions process.¹⁸ Activities in this course supplement major-specific academic advising completed by university staff members.

Quality advising is a time-intensive process, and a fully holistic method may not be possible for faculty already engaged in teaching, service, and scholarship. Church posits that an integrative approach may be more appropriate when there is insufficient time or opportunity to establish an extended advising relationship with a student.¹⁹ Rooted in the core values of the National Academic Advising Association (NACADA) and Kitchener's ethical traits, this strategy combines some elements of a prescriptive advising model with students' goals for interest-based activities outside the curriculum (ie, the pharmacy profession). With its focus on internalizing career goals, an integrative philosophy of advising may be

a good fit for schools and colleges of pharmacy and the students they will eventually admit. Future studies investigating how current PharmD students perceived the helpfulness of their prior experiences with pre-professional advising could aid in the creation of standards needed for wider adoption of best practices.

Profession-specific advising for pre-pharmacy students offers potential tools to address challenges faced by pharmacy programs. Professional development organizations in the field of pharmacy education should consider creating a resource portal focusing on advising practice like that devised by the Association of American Medical Colleges (AAMC). This organization provides a vast repository for pre-medical student advisors that includes topics such as supporting students through the application cycle to considerations for physical, social, and financial well-being. Adopting high-quality advising approaches will likely have a positive influence on professional school enrollment, general student success, and educational access for the traditionally underserved.

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