

## VIEWPOINTS

### Preprofessional Curriculum: Is it Time for Another Look?

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When we attend a national convention such as the American Association of Colleges of Pharmacy Annual Meeting, or scroll through an issue of the *Journal*, it becomes readily apparent that members of the Academy are expending a great deal of energy in the area of curricular improvement. In almost all instances, though, the focus of the effort deals with the professional curriculum only. I believe it is time to expand this perspective and focus, in part, to our preprofessional curricula. Specifically, in order for a student to enter the professional program, what are we requiring, why are we requiring it, what should be required, and how much time is (or should be) devoted to the preprofessional requirements?

Guideline 17.1 of the Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards and Guidelines for the Professional Program in Pharmacy specify that the preprofessional educational requirements for admission to the professional program need to consist of not less than 2 academic years (or equivalent) of college-level course work.<sup>1</sup> The preprofessional program should provide basic sciences such as general chemistry, organic chemistry, biological sciences, mathematics, information and communication technologies, and physical sciences. In addition, the curriculum should include general education (humanities, behavioral sciences, social sciences, etc) sufficient to encourage the broadening of intellectual powers and interests. The Standards and Guidelines do not provide specific abilities or outcomes that should be achieved after completing the preprofessional requirements, nor do they stipulate specific courses, content areas, or credits that should be completed.

In 2007, Broedel-Zaugg and colleagues surveyed college/school administrators to obtain their perceptions of the core requirements for the preprofessional curriculum.<sup>2</sup> The majority of respondents noted that courses in general chemistry, organic chemistry, general biology, and English composition should be required. Other courses suggested for inclusion were calculus, anatomy

and physiology, public speaking, microbiology, biochemistry, ethics, physics, cellular biology, English literature, and genetics.

More recently, Boyce et al identified the preprofessional requirements at colleges and schools of pharmacy participating in PharmCAS.<sup>3</sup> For the most part, courses identified were similar to those noted by Broedel-Zaugg and colleagues. Boyce et al went on to describe the value of a liberal education including the liberal arts in order to ensure that students achieve academic, professional, and societal success in the professional phase of the program and, ultimately, in the practice of pharmacy. Finally, these authors provided a listing of courses that should be included in the preprofessional program, and estimated that a minimum of 5 academic semesters would be required to complete the suggested curriculum. The suggestions, however, do not include offerings such as pharmacy orientation and others offerings unique to individual programs such as theology, religion, and community engagement. Nor does this listing take into account the desire of some colleges/schools to move courses traditionally found in the professional phase to the preprofessional phase in order to “make room” for introductory pharmacy practice experiences and/or advanced didactic offerings.

Currently, most colleges and schools of pharmacy adhere to a 2-year preprofessional curriculum, but some institutions require 3 years, while 4 others require and 33 prefer a 4-year degree (bachelor of arts/bachelor of science) prior to entering the professional phase of the program.<sup>4</sup> Interestingly, looking at the 2008-2009 entry-level applicant pool (as reported by 112 colleges/schools of pharmacy), 44.5% of applicants completed 3 or more years of college (but have no degree), while 27.2% possess a baccalaureate degree.<sup>5</sup> Whether the coursework completed by these applicants meets the course suggestions noted above is unknown. But it is clear that the majority of students are coming to our professional programs with more than 2 years of preprofessional education.

Even a cursory look at a suggested preprofessional curriculum coupled with the realization that we need to graduate a well-rounded student with critical thinking and leadership skills, suggests that a 2-year preprofessional framework is rapidly becoming obsolete. Compounding

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the problem is that in many parts of the country the K-12 education does not seem to prepare students optimally for the rigors of a science-based college education. On the other hand, can we afford to increase pharmacy education to 3 + 4 or 4 + 4 years, or change our 0-6 colleges and schools to 0-7 or 0-8? In addition, if we increase the amount of preprofessional education required, will this result in even more “school fatigue” and lead to a further decrease in the number of PharmD graduates who go on to graduate education? So, I pose the question “how much is enough” – particularly if we strive to teach skills and representative course material only? Finally, and perhaps most importantly, is this a discussion that we should even have at this point, given that neither ACPE nor the Academy has developed outcome statements for the preprofessional curriculum? There is no easy answer for this but it does appear that we cannot squeeze 2.5, 3, or more years of coursework into 2 and expect our students to learn, develop life-long professional behaviors, and flourish.

I suggest that it is time for the Academy to convene a taskforce or charge the Academic Affairs Committee to examine the preprofessional curriculum. The effort should start by elucidating the outcomes we expect rather than developing a list of courses we believe our students should

complete. Based on the identified outcomes, the Academy should agree on the length of the preprofessional curriculum; students should not select their college/school based on the number of semesters spent on the preprofessional curriculum. This issue needs to be addressed as we have an obligation to ensure that the preprofessional program is preparing our students to succeed in our evolving profession.

## REFERENCES

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