LETTERS
Changing Premedical Requirements
To the Editor: In his Commentary, Dr Emanuel rightly calls for reform in the premedical curriculum, much of which could be more intelligently shaped in response to the evolving challenges in medicine. However, I would not so hastily dismiss organic chemistry as a mere tool to thin the applicant herd. Indeed, I believe that no other premedical course so directly impacts clinical practice.

In a well-taught course, the specific facts of organic chemistry are secondary to the skills of pattern recognition, systematic analysis of complex problems, thinking in 3 dimensions, and the application of rules and techniques to new situations. Students must break down imposing reactions into their component parts—synthesis, mechanism, stereochemistry, and regiochemistry—and search for recognizable patterns with which to unravel the solution. I do not believe that any other premedical course demands such rigor in critical thinking. At its best, organic chemistry is learned as a language, with its own rules, vocabulary, symbols, and patterns. Students are asked to speak, read, write, and create in 3 dimensions. It is intimidating and difficult precisely because memorization alone is not enough: students must master the application of familiar patterns and tools to new situations.

These skills are essential in clinical medicine. Patient presentations, like organic reactions, have a wide array of variations. Every time I interview a new patient or respond to a midnight emergency, I search for patterns and apply the rules and techniques I have learned. Medicine has its own language, with grammar and method trainees must master in order to become clinicians. More complicated or dire cases only heighten the importance of an organized, systematic, and creative approach. I remember very little about benzene rings, but the critical thinking and problem-solving skills of organic chemistry formed the foundation of my medical training.

Daniel B. Kramer, MD
dbkramer@partners.org
Department of Medicine
Massachusetts General Hospital
Boston, Mass

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