


Chapter 15

Early Medical Education Readiness Interventions: Enhancing Undergraduate Preparedness

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ABSTRACT

Medical educators have long debated how to address one pivotal question: Which students will succeed in medical school? Traditionally, the approach to guaranteeing success in undergraduate medical education focused heavily on a rigorous admissions process. While student selection processes have evolved over time, so have the multiple categories of interventions to prepare students for success in medical school. These interventions are most often aimed at enhancing either academic or emotional preparedness in future or current students and are perhaps best described as early medical education readiness interventions. This chapter organizes these programs into the three overarching categories of preadmissions, prematriculation, and postmatriculation interventions, and will discuss the history and current landscape of each of these categories in detail. Further, the authors make recommendations for medical school administrators and directors of such programs to consider when designing their institutional approach to early medical education readiness interventions.

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INTRODUCTION

In U.S. medical schools, the attrition rate hovers around 4% (Association of American Medical Colleges, 2018a). Students who leave medicine during training report a plethora of contributing factors, including individual motivation, academic underperformance, and personal problems. The most common reason for leaving medical school is “academic” and the majority of academic problems occur during the pre-clinical years (Huff & Fang, 1999; O’Neill, Wallstedt, Eika, & Hartvigsen, 2011). On the other hand, roughly half of all medical students lost to attrition reported nonacademic reasons, including personal reasons related to health, family, change in career interest, and, most concerning, psychological distress, including depression, burnout, and low quality of life (Dyrbye et al., 2010).

The transition into medical school is challenging, and results in a significant increase in stress for student doctors. Upon matriculation, medical students express lower rates of burnout and depression symptoms than age-matched college graduate peers (Brazeau et al., 2014). However, in a 2008 study of more than 4,000 medical students across seven universities, 49.6% of students reported burnout, and an alarming 11.2% reported suicidal ideation (Dyrbye et al., 2008). In a 2006 systematic review, Dyrbye, Thomas, & Shanafelt found that most published longitudinal studies on medical student psychological distress in U.S. and Canadian schools focused on first-year students. The majority of those studies found that symptoms associated with depression and anxiety increased over the course of the first year. Together, this evidence supports concerns that medical education makes students vulnerable to the deterioration of mental health during training.

Academic concerns, leading to learning difficulty and underachievement, are also a major contributing factor in medical school attrition (O’Neill et al., 2011). The predictive factors associated with academic success can be divided into four categories: Demographic factors, aptitude or performance measures such as the Medical College Admissions Test (MCAT) and undergraduate GPA, noncognitive factors related to personal and interpersonal dispositions, and other background factors such as undergraduate major and institution (Krupat, Pelletier, & Dienstag, 2017). Among these, sociodemographic factors, such as ethnicity, low income, and minority group membership, have been associated with disadvantages related to achievement (Kumwenda, Cleland, Walker, Lee, & Greatrix, 2017). A variety of preadmission and prematriculation programs targets these students to address the shortage of diverse backgrounds in medicine. Together with postmatriculation interventions, these programs strive to reduce the number of medical school students facing academic challenges.

Whatever the contributing factors may be, around 10% of medical school matriculants will encounter academic failure at some time during their undergraduate medical education (UME). For the majority of these students, academic failure in the past was rare, and therefore has a significant impact on motivation and feelings of lack of personal accomplishment (Holland, 2016).

BACKGROUND

In order to address these issues, medical schools offer a variety of interventions, which are aimed at enhancing either academic or emotional preparedness in future or current students. The authors organize these programs into three categories: Preadmissions, prematriculation, and postmatriculation interventions. Preadmissions programs serve to bolster a student’s preparedness prior to the medical school application process. Prematriculation interventions include orientation programs and prematriculation

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